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ABSTRACT

The National Workplace Literacy Program forges dynamic partnerships among businesses, workers, and educators facilitating the transition from yesterday's work environment to tomorrow's. The program's success is indicated by high retention rates, organizational acceptance, and intense grants competition. Valid and reliable measures are needed that relate learning gains to job-based outcomes. Five projects demonstrate exemplary practices: Pima County, Arizona; Washington, District of Columbia; Baton Rouge, Louisiana; Weirton, West Virginia; and Madison Wisconsin. The five projects have key elements in common: job-relevant teaching materials, instructors with job-related training background, and availability of support services. The project's road map to success is based on several parts: common elements associated with successful projects, overcoming barriers to success, and self-help steps for federal funding applicants. The National Literacy Act of 1991 amends the program by modifying the matching funds requirement, setting priorities for small businesses, allowing 3-year grant periods, establishing a literacy program, and creating national program strategies. Long-term strategies must be examined that link the future of workplace literacy to the economy's shift from traditional production organizations to high performance organizations. (Six appendices are included: matrix by state of program partners from the first three funding cycles, list of states by region, legislative foundation, common questions/answers, 21 references, and sources of additional information.) (NLA)

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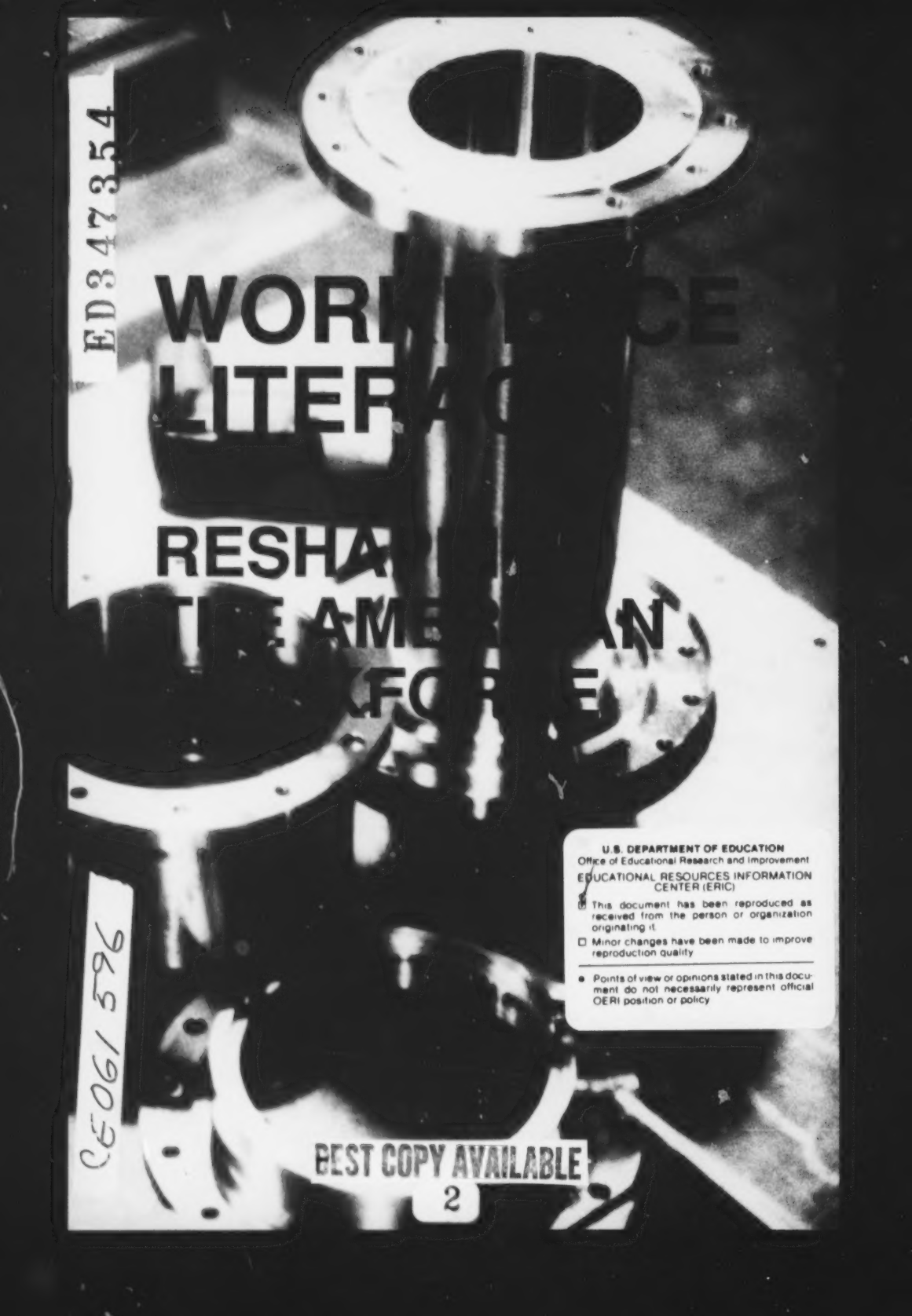
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Cover photo shows power transmission flexible couplings used in industrial and material handling equipment of all types. Photo was obtained at a manufacturing facility owned and operated by Kop-Flex, Inc. Power Transmission Products, of Harmans, MD, which participated in a U.S. Department of Education-funded workplace literacy project from 1989 to 1991.

WORKPLACE LITERACY: RESHAPING THE AMERICAN WORKFORCE

U.S. Department of Education
Office of Vocational and Adult Education
Division of Adult Education and Literacy

May 1992

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"Jeannette is an African-American grandmother in her late forties. For nearly 12 years she has been 'second cook' in a cafeteria at the Library of Congress. Throughout this time, her employer asked her repeatedly to apply for the 'first cook' position whenever it became vacant. Jeannette always refused: the higher salary would be welcome, but the position carries extra responsibilities and a degree of math and reading skills she felt she did not possess, having left school in the ninth grade. In 1990, Jeannette enrolled in the pilot workplace literacy class sponsored by her union and her employer. A few months later she was named 'Employee of the Month,' and was also featured in a 1991 national teleconference on JOBS 2000. She continues to be enrolled in workplace literacy classes and is working toward GED certification. Jeannette also now expresses interest in becoming a 'first cook' when the opportunity next presents itself."

(Submitted by Miriam Burt
Project Director
Skills Enhancement Training Program
Washington, DC)

INTRODUCTION

The world of work is changing. An unprecedented interplay of technological, demographic and global economic forces is reshaping the nature of work in America and redefining the American workplace.

The primary force driving this transformation is advancing technology. Robotics enables fewer workers to do the work of many. These workers, however, must have higher level skills to operate and monitor all aspects of the production process. Computers make it possible to have an efficient office with fewer support staff. A single worker can handle all levels of operations, from data entry and document production to complex customer service transactions. That worker must be able to use technology, analyze information and handle human relations issues. Industries made lean and efficient by global competition closely track orders and coordinate resources for "just in time" production to maximize productivity and customization. Workers must make complex decisions about supplies and the production process.

At the same time, a structural shift in the economy of the United States is occurring, away from producing goods and toward service-based industries. The number of jobs will increase 25 million by the year 2000, mostly in management, administrative support, sales and service.[1] These new jobs will require higher levels of education than current jobs. A growing number of workers will be required to meet educational standards formerly expected only of managers and other high-level workers. Basic skills levels that formerly were adequate for assembly line production are inadequate for employees faced with sophisticated quality control systems, flexible production, team-based work and participatory management practices.[2]

[1] Hudson Institute, *Workforce 2000: Work and Workers for the 21st Century*, 1987, pp. 58-59.

[2] *Ibid.*, pp. 58-59.

On a collision course with these trends are changes in the pool of future workers. Workers are becoming a scarce resource, especially workers with adequate basic skills. The traditional pool of qualified 16 to 24-year-old workers entering the workforce is shrinking. Employers are reaching out to less qualified workers to develop entry-level workforces.[3]

One of every five American workers reads at or below the eighth grade level and one of every eight reads at the fourth grade level. Much of the reading required in a cross-section of jobs ranks between the eighth and twelfth grade levels. Fifteen percent of job-related material requires even higher reading levels. As industry taps workers who are less likely to have adequate basic skills, the skills gap is expected to widen.[4]

Americans pride themselves on competitiveness. But the literacy tools American workers are using to compete are obsolete. Economic success was once determined by a nation's ability to produce higher volumes of goods and services with the same or even fewer resources--at competitive prices. Today, industries and nations compete not only on their ability to improve productivity and prices, but also on their ability to deliver quality, variety, convenience, and customization in time to take advantage of market trends.

Workers need a wide array of skills, especially during production and marketing of goods, to meet new competitive standards. Production increases due to automation and reduced personnel costs do not mean success in a global economy. By the mid-1980s, employers realized that employees capable of meeting international competition needed job competencies that hinged on adequate education. If the economy could not meet these demands, others would. Industries began to extend investment in employee education to front-line workers in production and service delivery systems. Still, America was falling behind.[5]

[3] *Ibid*, pp. 76-81.

[4] Mikulecky, L., "Basic Skills Impediments to Communication Between Management and Hourly Employees," *Management Communication Quarterly*, Vol. 3, No. 4, May 1990, pp. 452-473.

[5] Carnevale, A., *America and the New Economy*, 1991, p. 1.

By 1988, businesses, industries, unions, educators and individuals were bringing the issue of American global competitiveness and workers' needs for basic skills enhancement to the attention of federal policymakers. If workers increased basic skills, proponents argued, workers' effectiveness on the job would increase. America's ability to compete globally would be enhanced. But federal leadership was required.

The first major federal legislation that addressed the issue of education skills in the workforce was the Omnibus Trade and Competitiveness Act of l988 (which became P.L. 100-418). The legislation focused on trade issues, but also included provisions to create a national program of workplace literacy grants that would support the provision of job-related basic skills to workers.

The Trade Bill moved too slowly to satisfy workplace literacy program proponents. Identical provisions were entered into major education legislation, the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988 (later enacted as P. L. 100-297). This statute, amending and extending the Adult Education Act, included a new section containing the authorization for the National Workplace Literacy Program.[6] Like the Trade Bill, this proposal containing a number of education programs moved slowly--too slowly, workplace literacy proponents felt--to achieve a national program in fiscal year 1988.

So legislators took an unusual step. They placed language in a supplemental funding bill for fiscal year 1988, setting aside funds to create the program immediately. Language in the bill directed that the program be administered consistent with the adult education provisions of the Hawkins-Stafford Amendments governing the program, which had not yet been enacted. This prompt legislative action to create and fund a National Workplace Literacy Program is a measure of the priority federal policymakers placed on this new approach to improving workers' basic skills and American competitiveness.

[6] See Section 371 of the Adult Education Act (Appendix C).

The National Workplace Literacy Program was unusual in another respect. It required partnerships between businesses, industries, labor unions or private industry councils, and education organizations. No single organization could receive a grant. The mandated cooperative relationship among the partners was designed to be mutually beneficial. Private sector partners were to draw upon the expertise of educators to provide work-based programs. Educators, in turn, could broaden and deepen their expertise as they dealt with specific work-based literacy requirements and became more familiar with the culture of businesses, industries and unions.

The major purpose of the National Workplace Literacy Program, as spelled out in the statute establishing the Program, is to provide grants for projects designed to improve the productivity of the workforce through improvement of literacy skills needed in the workplace.[7] The partnerships it fosters demonstrate how enhanced literacy skills can help America's workers become more efficient and productive--especially those workers who need special assistance in transitioning to an ever more competitive and dynamic work environment.

By several measures, this innovative program is a success. Over the first three grant cycles, funding for the National Workplace Literacy Program doubled. The number of businesses participating also doubled and the number of employees participating in the Program more than doubled. By 1992, a $60 million federal investment in the Program will have been made in program models, new curriculums, staff development and other promising practices. The Program has attracted national and even international attention.

This publication continues efforts by the U.S. Department of Education to disseminate information on the Program. It traces the Program as it has been implemented over the first three funding cycles; identifies best practices; discusses common barriers to success; and seeks to illuminate the way for businesses, labor organizations and educational institutions around the country that may see a need, but are unsure how to proceed.

[7] *Ibid.*

Sources used in the preparation of this publication include major reports by the U.S. Department of Education, the American Society of Training and Development (ASTD), the Secretary's Commission on Necessary Skills (SCANS), the Hudson Institute, and the Southport Institute for Policy Analysis, as well as the work of researchers Tom Sticht, Larry Mickulecky, Jorie Philippi and others in the field, referenced in Appendix E.

The publication also draws heavily on the experience and site visit reports of the National Workplace Literacy Program staff at the U.S. Department of Education, responsible for implementing the National Workplace Literacy Program, and on the contributions of the National Workplace Literacy Project Directors--a group of more than 140 individuals who are administering or have administered a partnership grant.

"A year ago Tom had little confidence in himself and no pride in his appearance or work. As a result of the success he experienced in training, he's become highly productive and takes pride in his work. His entire appearance and demeanor have changed, too. With his new-found confidence and self esteem, he takes advantage of every in-house training opportunity placed in front of him.

(Submitted by Stephen Redler
Project Director
Northwest Regional Education
Laboratory
Portland, Oregon)

EXECUTIVE SUMMARY

America's workers must compete in a global economy using high technololgy and twenty-first century production techniques. The National Workplace Literacy Program forges dynamic partnerships among businesses, workers and educators that facilitate the transition from the work environment of yesterday to that of tomorrow.

Since creation of the National Workplace Literacy Program in 1988, the Department of Education has awarded 149 grants totaling $41 million to partnerships in 42 states and territories. An additional $19.2 million in grants will be awarded in 1992. These grants have served a total of 67,532 workers in more than 361 different businesses. The largest number of business partners has been from the manufacturing sector; 29 percent of the projects have involved labor organizations.

There is evidence that the Program is evolving into the kind of workplace literacy stimulant envisioned by the Congress. One indicator of success is a high retention rate--higher than any other type of adult education program. Another indicator is the wide range of organizations embracing the concept, from the National Alliance of Businesses to labor organizations. Competition for grants is growing more intense each year, with a wider variety of types of applicants seeking to participate. Even with these indicators of success, there remains a need for valid and reliable measures that relate learning gains to job-based outcomes. The development of such work-based measures is a major issue that must be addressed.

PROJECTS USING BEST PRACTICES

Gradations of quality are discernible despite the shortcomings of current measures of hard results. Chapter II describes five projects with exemplary practices, located in Pima County, Arizona; Washington, D.C.; Baton Rouge, Louisiana; Wheeling, West Virginia, and Madison, Wisconsin. Each project is a unique response to the needs of the community it serves and the partners involved. For example, the Arizona project establishes an advisory committee at

each worksite, comprised of representatives from the participating workers, management, and the instructors. The Skills Enhancement Training (S.E.T.) project in the District of Columbia takes an innovative joint labor-management approach to workplace education. It is "worker-driven": employees are involved at every stage, from the pre-proposal focus groups to curriculum design, recruitment and program evaluation. Among the key elements the five exemplary projects have in common are teaching materials drawn from actual materials used in the workplace, instructors with job-related workplace training background, and availability of support services such as educational counseling and child care.

ROAD MAP TO SUCCESS

A study of the Program's first year identified four elements commonly associated with successful projects: active involvement by all project partners; active involvement by employees; an analysis of job-based literacy skill requirements, and instructional materials related to literacy skills on the job.

Among the barriers to success that are frequently encountered by new projects are the difficulty of establishing strong and effective partnerships, developing contextual curriculums that lead the learner to literacy competencies needed on the job, and the challenge of carrying on the project after federal funding ceases. Flowing from identification of common barriers are practical suggestions for businesses or others who may be considering initiation of a workplace literacy program. These suggestions range from the initial and crucial step--starting with a conceptual framework--to the long-term, such as planning from the outset how the program can be funded after its demonstration period ends.

The publication further suggests specific self-help steps for those who may wish to apply for federal funds under the National Workplace Literacy Program. Such steps include becoming familiar with the application and grant process and schedule, visiting or calling an operating project, and obtaining a copy of an actual application that was selected for funding.

THE FUTURE

The National Literacy Act of 1991, signed by President Bush on July 25, 1991, amended the Adult Education Act, including changes in the National Workplace Literacy Program. These changes, effective in fiscal year 1992, will:

- modify the matching funds requirement;
- place a priority on applications from partnerships that include small businesses;
- allow for a grant period of up to three years;
- establish a new program, the National Workforce Literacy Assistance Collaborative, within the U.S. Department of Labor; and
- create a new program of National Workforce Literacy Strategies at the U.S. Department of Education, to be triggered when appropriations for the National Workplace Literacy Program reach $25 million.

Chapter IV also discusses long-term strategy, linking the future of workplace literacy to the American economy's shift from traditional production organizations to high performance organizations. In traditional organizations--and in traditional workplace literacy programs--workforce learning is not viewed as a meaningful activity in relation to the production process. Traditional workplace programs are short-term and problem-centered. High performance organizations view workplace education as an integral aspect of the production process. As the American economy transitions to the twenty-first century, workplace education must respond to the education needs of high performance organizations.[7]

The publication concludes with a brief discussion of five key issues that will shape the future of workplace education programs: partnerships; assessment and evaluation; worker involvement; staff development, and institutionalization.

[7] Stein, S., and Sperazi, L., *Workplace Education and the Transformation of the Workplace*, 1991.

"Nellie emigrated from the Philippines to work in the pineapple fields in Hawaii. After 10 years, however, plantation operations were phased out and job opportunities were offered at two luxury resorts on the island. The type of work was far outside Nellie's experience, however, and she wondered how she could make the transition. Nellie enrolled in an 80-hour hotel orientation class, which included hotel tours where she could see jobs in context. She studied the English requirements of various jobs and discussed work environment, grooming, and other job expectations of hotel employment. At the end of the class, Nellie was recruited to work as a food server. She continued to attend workplace literacy classes, which helped her learn the wine list, taught her how to pronounce and explain menu items like 'tagliatelle with duck prosciutto,' and included techniques such as role playing in serving and clearing with courtesy. After six months as a food server, Nellie had earned the respect of her coworkers and supervisor, and was promoted to the 'fine dining' restaurant as soon as it opened."

Submitted by Tim Donahue
Project Director and Educational
Programs Coordinator
Hawaii Human Development

THE BIG PICTURE

Recognition of the benefits to be reaped from workplace literacy education has been rippling through America's business community for several years. Thousands of workplace literacy programs of many types have sprung up across the country in response to local needs--projects established by a wide variety of entities, but most by businesses, states and localities, without federal assistance.

A number of states support workplace literacy activity using state funds--for example, Massachusetts, Virginia, Illinois and Minnesota. Other states, such as Georgia and Mississippi, use a portion of other federal funds (in these instances, Job Training Partnership Act funds) for workplace literacy programs. In addition, other federal monies are being channeled specifically toward workplace literacy. For example, since 1986 the Department of Labor has distributed approximately $25 million for workplace literacy projects.

It is the National Workplace Literacy Program, however, that has captured national attention as a catalyst to help America prepare to meet unprecedented global standards of economic productivity and efficiency. Administered by the U.S. Department of Education, the National Workplace Literacy Program is the primary federal program for upgrading the work-related basic skills of America's workforce. Now in its fourth funding cycle, the Program has so far invested $41 million in grants to 149 partnerships. Positive feedback from these projects has further fueled interest in the concept across the nation.

The projects funded under the National Workplace Literacy Program are commonly regarded as being at the forefront in the field. Their seed money has produced an unusual degree of innovation; they are being held to increasingly higher standards of accountability and evaluation of results; and their results are being documented and widely disseminated so that businesses, labor organizations and employees nationwide can benefit from their experience.

OBJECTIVES OF THE PROGRAM

The National Workplace Literacy Program has four major objectives:

- improved basic skills for employees;
- improved employee performance;
- model curriculums for industries, and
- institutionalization of programs by partners and replication at new sites.

Improved Basic Skills for Employees

The National Workplace Literacy Program was created in the belief that workers' levels of basic skills contribute significantly to American global competitiveness. One objective clearly stated in the statute creating the program was that "Programs funded...shall be designed to improve the productivity of the workforce through improvement of literacy skills needed in the workplace...."

Improved Employee Performance

Enhanced performance by workers enrolled in projects was to be achieved through literacy and basic skills training, English as a second language training, and by training in speaking, listening, reasoning and problem-solving. It seemed axiomatic that improving work-related literacy skills would boost job performance.

But when the Program first came into being, measures to relate literacy gains to work-based outcomes were just beginning to be developed. These measures were based largely on anecdotal information. Increasingly, researchers are focusing on development of quantitative measures of relationships between learning gains and work performance.

Development of Curriculum Materials for Industries

The Program's first cycle revealed that work-related basic skills curriculums did not exist to the extent anticipated, nor did private sector resources exist to develop them. Rather than having new or partially developed curriculums in hand for testing or implementation, applicants needed support for curriculum development, recognizing that a curriculum based on work was critical to the success of workplace literacy programs. In response, Federal officials expanded the Program's scope to allow for more curriculum development during the grant period. Development and dissemination of curriculums and promising practices has become a key part of the National Workplace Literacy Program.

Institutionalization and Replication

Grant funds were viewed primarily as a means of encouraging private sector efforts. It was understood that federal funds alone could not solve the problems of low basic skills related to productivity. The best hope for a solution was seen in having private sector industries that participated in the Program use it as part of a long-term strategy for human resource development, and for industries to disseminate their curriculums and promising practices to other private sector entities in need of programs. Receptive industries could then establish programs without federal funds using appropriate available materials.

The Program focus on institutionalization and replication has sharpened, most recently in the National Literacy Act of 1991. The Act contains language that allows the Department to extend the original one-year grant cycle to a three-year period. The longer grant period would enable partnerships gradually to increase their level of investment participation to eventually assume the entire cost of program operation.

Dissemination plans are expected of all projects. These plans may include appearances at major conferences, placing final reports in major information networks, sharing products, demonstrating techniques to interest others in implementing such a program, and preparing articles about promising practices for state and national publications.

GRANT RECIPIENTS

In the first three cycles of the National Workplace Literacy Program, the U.S. Department of Education awarded 149 grants totaling $41 million to partnerships in 42 states or territories (Figure 1). The number of grants increased dramatically in 1991 (Figure 2), almost doubling from the previous year and mirroring the increase in the federal appropriation. The number of business and labor partners also increased significantly, from 98 in the first cycle to approximately 205 in the third. A total of 67,532 employees were enrolled over the three-cycle period.

The number of businesses actually served over the three cycles exceeds the 360 partners listed in Appendix A. Many other businesses received workplace literacy services at worksites from partnerships without being actual partners themselves.

Figure I. Geographic Distribution of National Workplace Literacy Projects

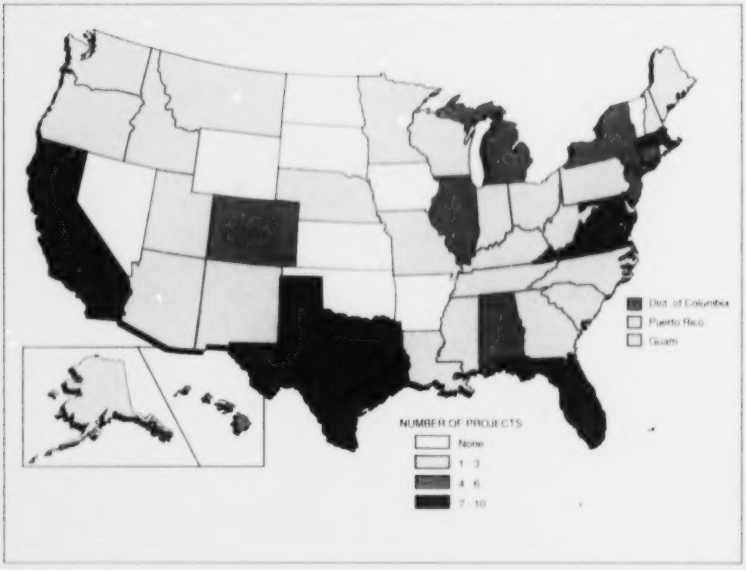


Figure 2. Statistical Profile of the National Workplace Literacy Program

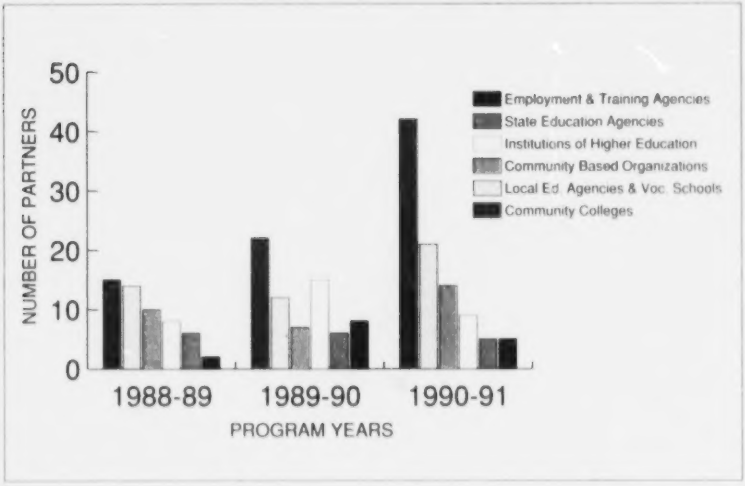
PROGRAM YEARS	NUMBER OF GRANTS	EST. NUMBER OF LEARNERS	FEDERAL APPROPRIATION	NUMBER OF STATES
1988/89	37	19,943	$9,574,000	26
1989/90	39	15,435	$11,856,000	27
1990/91	73	32,144	$19,726,000	32

As in the case of grants and businesses, the significantly higher client base in the third cycle was, in large part, a function of funding levels. Appropriations for the program increased from $9.5 million the first year to $11.9 million the second, then jumped to $19.7 million in the third year, as indicated in Figure 2. The appropriation for Program Year 1991/92 is $19,251,000.

Grants are made to partnerships that include at least one education organization and at least one other organization. Eligible education partners, which are specified in the law establishing the Program, include state and local education agencies, community colleges, universities, area vocational schools, employment and training agencies and community-based organizations. Other eligible partners include businesses, industries, labor organizations and private industry councils.

Most education partners are community colleges, but a large number are local school districts (Figure 3). These traditional providers of adult education services are moving into the innovative field of nontraditional contextual basic skills services designed especially for private sector partners. In the first and second years of the Program, most partnerships were initiated by education organizations. But recently, there has been an increase in the number of contacts from businesses interested in initiating applications for grants and in the number of applications from business partners playing a central role as the partner designated to receive the grant on behalf of its partnership.

Figure 3. Education Partners by Type



Over the three-cycle period, a preponderance of business partners has been from the manufacturing sector (an average of 48 percent), with approximately 13 percent from the hospital/health care industry, and about 8 percent from the hotel and hospitality industry (Figure 4). On average, 29 percent of the projects have involved labor organization partners, but in the latest cycle, unions dropped to 25 percent (Figure 5). The 1991 invitation for applications contained an "invitational priority" that encouraged worker involvement.

Analysis of grants over the three-year period shows that the average grant is $274,222. Most grant recipients serve about 446 participants on site at their workplace. As shown in Figure 6, the south has captured the largest share of the program (34 percent), with the northeast/mid-Atlantic second (28 percent). The west (22 percent) and the midwest (17 percent) have the smallest program shares. The south almost tripled its share in the last round of awards (Figure 7).

Most states in which projects have been funded have three or fewer projects). Six states--California, Florida, Maryland, Massachusetts, Texas, and Virginia--have had more than six.

Figure 4: Projects by Industry Type

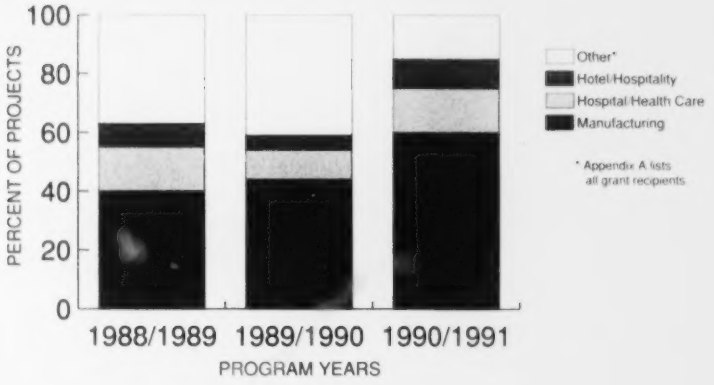


Figure 5. Participation by Labor Organizations

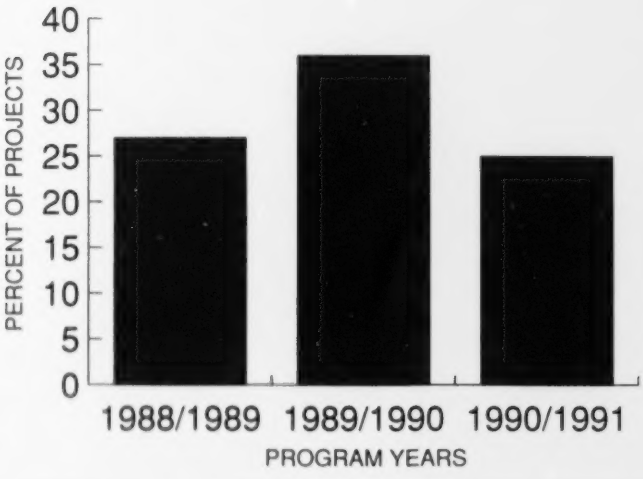
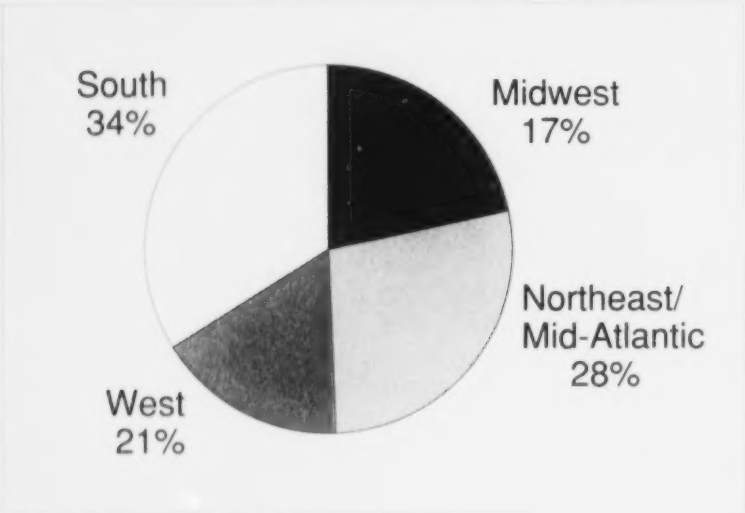
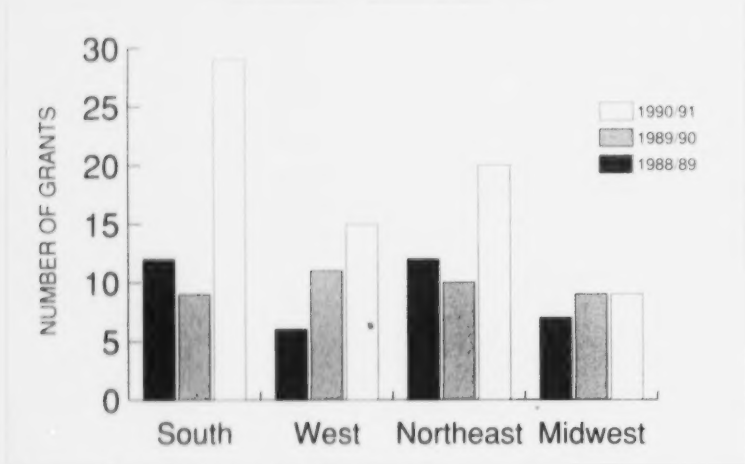


Figure 6. National Workplace Literacy Program Grants Awarded by Region* (Program Years 1988/89 - 1990/91)



* *Appendix B lists the states included in each region.*

Figure 7. National Workplace Literacy Program Grants by Region* and by Program Year



* *Appendix B lists the states included in each region.*

THE STARTING LINE

A partnership is allowed up to three months following receipt of a grant award to hire staff and substantially complete an analysis of work-related needs in the businesses involved. This last activity--commonly referred to as a job task analysis or literacy audit--is of critical importance. Researchers and practitioners in the field of workplace literacy are unanimous in recommending some form of job task analysis that builds on needs-related information gathered by the applicant before submitting a request for funding. It identifies job-specific basic skill requirements in the particular workplace and the extent to which the employees are meeting them. In other words, it is the baseline for determining the kind, amount and duration of instruction needed.

This is an area of some sensitivity, however. First, since not all productivity problems are caused by low literacy skills, it is important for analysts to separate literacy problems for which assistance can be provided from others. Second, in some instances workers may fear that the literacy analysis or resulting education programs may be used as a screen to remove those workers for whom retraining would not be cost-effective. Third, the cost of conducting these formal analyses may be burdensome for small businesses. Small businesses are more likely to conduct an informal, less extensive job task analysis of literacy skills.

Job task analysis uses a variety of methods. These methods are "lenses" to view the literacy needs of employees at a specific business or industry. The technique works best when several methods are combined. Educator teams use observations of successful workers, questionnaires, interviews, and analyses of written materials such as warning signs, manuals, instructions, and health insurance policies. Workers may meet in focus groups or participate in other ways to identify literacy skills needed and materials that incorporate these skills. Employee focus groups are an excellent way to receive key information from employees while enabling them to develop personal investment in the system. On-site observation is essential. It is impossible to perform a successful job task analysis based only on written information.

Because they bring educational expertise to the partnership, the education partners usually perform the job task analyses to determine what literacy skills affect particular job skills. For example, workers may be required to read graphs and charts in order to perform statistical process control operations. Graph reading is one literacy skill that determines successful job performance for statistical process work. Workers may be required to repair broken equipment, but before they can repair it they must be able to identify the problem. The ability to draw inferences is a key literacy skill required to problem-solve for equipment repair.

Following the job task analysis, a curriculum is developed by educators, with assistance from employers and employee groups. A curriculum is a conceptual system of related learning experiences. The curriculum developed helps the learner to progress from his or her level of job-related basic skills to a point of competency needed for the current or a future job, or for a new system such as team-based management.

Materials collected from the shop floor do not constitute a curriculum. The materials, along with information from worksite observations and expertise offered by educators, employers and employees, must be processed and structured to create a system of learning experiences for workers at each business or industry. It is easier to develop contextual curriculums if the industries served are related by type or size. Curriculums may include reading and writing exercises but also should include problem-solving simulations based on work, audio-visual material such as video or slide presentations, or software developed specifically for the employees involved.

THE WORKPLACE APPROACH TO LEARNING

How workplace literacy instruction is provided is critical. A basic and important distinction exists between academic basic skills education and workplace basic skills training. As the report by the Secretary's Commission on Achieving Necessary Skills (SCANS) states: "The most effective way of learning skills is 'in context': placing learning objectives within a real environment rather than insisting that students

first learn in the abstract what they will be expected to apply."[8] For example, the emphasis in on-the-job reading should be on locating information for immediate use and problem-solving.

More than 50 years ago researchers concluded that generic reading instruction does not improve job performance. This has been confirmed by experience of the U.S. military. Conversely, subsequent military research and development revealed that average gains on reading test scores ranged from 20-36 percent after only 60-120 hours of functional context instruction, with gain retention rates of over 80 percent after three months.[9]

Developing materials for job literacy that work in the job makes instruction meaningful in terms of prior knowledge. Working from known concepts helps ease the process of assimilating new knowledge. To be effective, instruction and curriculums must be designed around active information-seeking and processing using job-related basic skills in tasks such as locating information in job manuals, and manipulating information to solve job-related problems.[10]

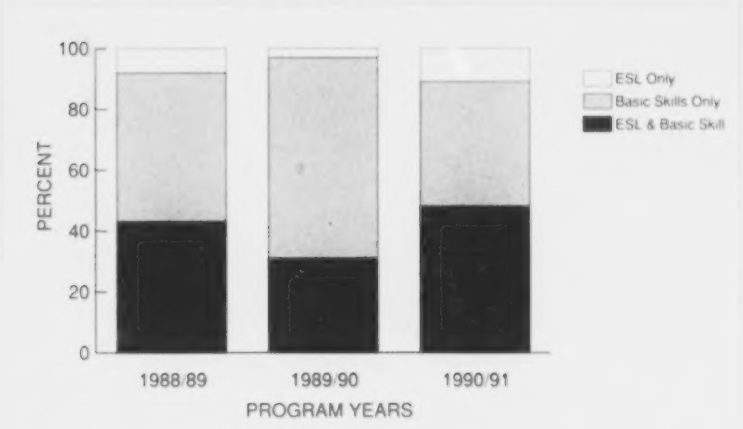
The statute creating the National Workplace Literacy Program specified several types of training the Program could support. These include work-based adult literacy and basic skills services, adult secondary education or its equivalent, English as a second language (ESL) training, training to update literacy skills for technology, and training to improve thinking, reasoning, and problem-solving. The Department has interpreted the latter category also to include team-building and employability skills. Most workplace literacy projects focus on work-related basic skills training. Many projects offer a combination of work-related basic skills and ESL training (Figure 8).

[8] U.S. Department of Labor, The Secretary's Commission on Achieving Necessary Skills, *What Work Requires of Schools*, 1991, p. xv.

[9] Philippi, J.W., *Literacy At Work: The Workbook for Program Developers*, 1991.

[10] *Ibid.*

Figure 8: Type of Instruction Provided



Most of the workers assisted by the National Workplace Literacy Program were born in America but lack basic skills to cope with new processes and technologies or need basic skills enhancement to even enter the workforce. Increasingly, however, entry level employees are immigrants. As described in a recent Department of Education report, by the year 2000 an estimated 17.4 million limited English proficient adults will be living in the U.S. Immigrants will make up 29 percent of the new entrants into the labor force between now and the year 2000--twice their current share.[11] Over the three grant cycles to date, about 22 percent of projects offered ESL training exclusively.

As the first cycle of the National Workplace Literacy Program drew to a close, the Department contracted with Pelavin Associates, Inc., for a review of its first-year projects. Some important conclusions about the contextual approach to workplace learning emerged from this study of six geographically dispersed projects identified by the Department as successful.[12]

[11] U.S. Department of Education, *Teaching Adults with Limited English Skills: Progress and Challenges*, October 1991, p. 10.

[12] Pelavin Associates, Inc., *A Review of the National Workplace Literacy Program*, 1990.

The Pelavin report indicates that even in the first cycle, most projects conducted some type of literacy task analysis, although analyses were sometimes informal. The six case studies reveal that all project sites used some instructional materials related to job literacy requirements. In subsequent years, as more specific regulations were developed by the Department, the amount of contextual curriculum has grown dramatically.

One significant trend became evident in the 1990-1991 cycle of grants, when more than half of the projects offered workers some release time for training. Release time is a period during which employees are released from work duties to attend training sessions. Release time reduces scheduling problems and is also an important motivational factor for employee participation. Frequently, employers offer one or two hours per week of release time. Often employees match release time by donating one or two hours of their own time for training by coming to work early or staying late. In other cases, business partners provide 100 percent release time for training.

Technology is a useful tool in the National Workplace Literacy Program. It serves primarily as a supplement to programs of contextual learning. The best projects use technology to support their work-based programs by developing software, video, and interactive video disc instruction that is contextual for the industries being served.

PROGRAM EVALUATION

A good evaluation is a systematic assessment of the processes and outcomes of a project. There are two parts to a good evaluation. The first is a formative evaluation. It is a process by which data is systematically fed back into the project's processes to improve the project. The second is an overarching summative evaluation, which allows the total process of the project and the final outcomes to be assessed.

Ideally, both types of evaluation should be performed by an external evaluator who is both able to be objective and also an expert in reviewing work-based literacy programs.

Because it has a formative use, a good evaluation starts very early in the project, perhaps as early as the first or second month. Evaluators should visit the site of the project regularly rather than limit themselves to a review of data gathered from the site. How data is gathered and being there to gather it provide an important context for the evaluator. Regardless of his or her level of expertise, the evaluator should be involved in the actual data collection at the site as much as possible.

Criteria for evaluating the project should be established by the evaluator working with all parties vested in the project, including workers. If the project is well-designed, its goals can provide a logical framework for both formative and summative evaluation. Objectives leading to well-drawn goals can be used as a measure of project success. However, if the objectives do not contain a qualitative dimension, the task is harder. For example, a project objective loosely framed as "to provide" or "to increase" must address how well services were provided or how much an element increased in order to be evaluative. The simple fact that services were provided does not offer a qualitative level of success.

Multiple sources of information should be used in a good evaluation. Key to this process are observation and interview of participants in the Program. Examination of records is also essential and both qualitative and quantitative data must be included.

To make matters more challenging, workplace programs must evaluate not only what participants learned, but also how that learning changed individual or group performance on the job. It is important that workplace literacy programs be held accountable only for improving types of performance that depend on literacy skills. A large number of factors such as management practices or personal issues can affect productivity and caution should be exercised by project designers in identifying what literacy skills mediate what job skills.

PROGRAM RESULTS

It is generally recognized by experts and practitioners in the education and business sectors that workplace literacy programs are more successful than strictly academic adult education. Hard, quantifiable evidence is limited, however, for a number of reasons. The concept and the program are relatively new.

Adult education programs are unique in that students "vote with their feet." Enrollment in workplace programs is usually voluntary and open-entry, open-exit. Therefore, retention rates are an important indicator of quality. By that measure, workplace literacy projects are unusually successful, because it is commonly reported that recruitment and retention are not problems. But special circumstances apply: workplace projects offer a convenient, if not mandated, location for instruction; monetary and other incentives are frequently offered; what is learned is immediately useful; the learning environment is unusually supportive; and support services such as child care, transportation and educational counseling are frequently offered while learners participate in basic skills training.[13]

Another indicator of success is the range of players who are embracing the concept. The National Alliance of Business (NAB) and the Business Council for Effective Literacy (BCEL) are among the business organizations that support workplace literacy information-sharing activities. As the Program has grown in scope and recognition, organized labor has also become a vocal participant, urging that projects recognize workers' needs and encourage participative management.

Assessment instruments used vary widely, as documented in the Pelavin report. Methods range from formal tools such as the Comprehensive Adult Student Assessment (CASAS) and the Test of Adult Basic Education (TABE) to informal methods such as self-evaluation and surveys of supervisors and teachers. Success in workplace basic skills must be judged in terms of what is learned and how learning

[13] *Ibid*, pp. 32-33.

affects job performance. Assessing what is learned requires valid and reliable measures that relate learning gains to job-based outcomes.

Such measures do not currently exist. Until they do, confirmation of the precise impact of workplace literacy programs on job performance will not be possible. As a result, other estimates are often used, such as anecdotal information on changes in employee behavior, rates of employee participation and assumptions that basic skills instruction was a factor in improved efficiency and productivity. Current methods of measuring adult literacy levels cannot directly relate increases in those literacy levels to work performance measures such as improved safety, productivity, attendance, job retention or promotion. The development of work-based measures is a major issue that must be addressed.

In the past, the short time frame of 18 months for most projects, coupled with the need to provide work-related literacy services, have made development and validation of new assessment instruments very difficult. New research on this issue is being conducted by Larry Mikulecky of Indiana University, through the National Center for Adult Literacy. His goal is to relate literacy gains and work-based outcomes in some meaningful way. The U.S. Department of Labor is developing and testing an assessment tool related to workplace literacy. An invitational priority was included in the application notice for the 1991-1992 National Workplace Literacy Program competition to encourage applicants to develop assessment systems that relate literacy gains to job outcomes. In addition, the three-year funding allowed under the National Literacy Act of 1991 would add continuity and enhance opportunities for meaningful assessment.

Despite the shortcomings of current measures of hard results, however, gradations of quality are discernible. The following chapter describes in greater detail five exemplary projects that demonstrate how a good idea embodied into law can, with commitment and creativity, be translated into practical assistance to businesses and individuals.

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"Jerry's supervisor in the automotive plant saw him as a good and dependable worker, but one who kept to himself in a shell of shyness. His oral communications reflected his insecurity and lack of confidence. His work unit converted to a teamwork mode of operation and Jerry was not able to contribute. Jerry decided to work with an instructor at the Lifelong Learning Center. Several months later, Jerry and a team of co-workers gave a very creditable presentation on the steps they take to improve quality and reduce damaged parts. They have given the presentation to several groups in the plant, and were even entering a competition sponsored by the state manufacturers association. Jerry's supervisor can hardly believe the change. Jerry is now willing to take part in work with his group and give his ideas. He recently volunteered to take on a task above and beyond any expectations."

(Submitted by Sandra G. Pritz
Workplace Literacy Project Manager
The Ohio State University)

EXEMPLARY PROJECTS

All projects funded under the National Workplace Literacy Program are required to demonstrate good prior planning and show promise for a high quality program. Some, however, exceed minimum requirements and sometimes even their own expectations. Five such projects were selected to be highlighted in this report.

WORKPLACE EDUCATION PROJECT OF PIMA COUNTY ADULT EDUCATION (PCAE)

Tucson, Arizona

Partners: Arizona Consortium for Education and Training
Southern Arizona Innkeepers' Association

Project Background

The Workplace Education Project of Pima County Adult Education (PCAE) responds to the basic skills needs of a number of employers in southern Arizona, including hotels and resorts, health care providers, and electronics, aerospace and other manufacturers. The project offers instruction to 230 students, in literacy and basic skills, English as a second language, GED test preparation, problem solving/critical thinking skills, and communication. It has selected two "umbrella" organizations whose members employ non-native speakers of English and workers with inadequate basic skills. This provides the opportunity and flexibility to train employees at a number of locations. For example, the project conducts workplace education classes for housekeeping and groundskeeping workers at resorts and hotels, production workers at manufacturing companies, and custodial workers at the University of Arizona.

Key Elements

- Prior to instruction, the Workplace Education Project conducts a job task analysis that identifies the literacy requirements of actual jobs, so skills taught will be directly related to workplace needs.

- Workers are involved in all aspects of program development and implementation.
- Advisory committees are formed at each worksite with representatives from the participating workers, management, and the instructors.
- The program is presented as a positive opportunity for employees.
- Class participation is voluntary.
- In most cases, at least 50 percent of the time employees spend in class is paid release time.
- An assessment tool (pre-test) is developed from specific workplace needs identified in the task analysis and administered to potential students recruited for the class.
- Materials from the worksite are incorporated into the curriculum.
- The curriculum also includes problems and situations that simulate actual situations in which workers use basic skills on the job.
- Ongoing interviews with employees ensure that what is being taught continues to be relevant and is meeting their needs.
- Post-tests are developed to assess student progress and the results are compared with the results of the pre-test.
- Support services such as child care and transportation are provided whenever needed.
- Educational counseling is provided to every student, including confidential discussion of personal educational goals, information about other adult education opportunities, and career options.

Indicators of Success

- Improved communications skills by participating employees, including oral and written skills.
- Improved reading, math and problem-solving skills.
- Improved morale and self-esteem.
- Better attendance and promptness by some employees.
- Increased productivity by some employees.
- Requests for more classes by both management and workers.
- Community-wide recognition, including many employer requests for PCAE's Workplace Education Project classes.

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CAFETERIA WORKERS SKILLS ENHANCEMENT TRAINING (S.E.T.) PROGRAM

Washington, D.C.

Partners: Food & Beverage Workers Local 32 and Employers Benefits Fund
Human Resources Development Institute, AFL-CIO

Project Background

The Skills Enhancement Training (S.E.T.) project takes the joint labor-management-education approach to workplace education. Serving the cafeteria workers represented by the Food and Beverage Workers Union at 14 large food service businesses in the Washington, D.C. area, S.E.T. harnesses the knowledge and expertise of both the employers and the union. The project is administered by a pre-

existing joint employee benefits fund, governed by union and company representatives, and the project's basic skills classes complement the education benefits administered by the joint fund.

The cafeteria jobs employing the 3,000-plus members of the union are part of Washington's fast-growing food service industry, where minorities, immigrants and women comprise a substantial portion of the workforce. Good basic skills are essential in these jobs for tasks such as making recipe measurements and conversions, reading cleaning solvent labels, making change, and responding to customer inquiries. These skills are indispensible to the smooth operation of the government, university, and museum cafeterias where these workers serve millions of meals each month. To upgrade those basic skills, S.E.T. classes are held at or near learners' worksites for four hours a week, either after work or on Saturday mornings.

Key Elements

- S.E.T. is "worker-driven," involving workers in all stages of the project. The union's active participation has facilitated this worker involvement, from pre-proposal focus groups to curriculum design, recruitment, and program evaluation.
- The project makes use of the union structure to reach workers in need of services. This contact is facilitated by a unique relationship between the union and the employers which allows open access to the workplace to conduct needs assessment, to recruit participants, and to conduct post-program assessment with both workers and employers.
- S.E.T. offers incentives for participation. First, all employers pay a training bonus of $200 to those who complete training. Second, program graduates receive enhanced or "super seniority" with the union, which could aid them in being promoted when other factors are equal.
- Teaching materials are drawn from actual materials used in the workplace, such as recipes, safety handbooks, and inventory

sheets.

- Problem solving is a major component of the curriculum, with role-playing and class discussions of actual work situations.
- Counseling and linkages to appropriate educational and training resources in the community are provided, with tuition reimbursement available for education programs under the collective bargaining agreement.

Indicators of Success

- 71 percent of the employees participating completed an entire cycle of classes, and 25 percent of those returned for more than one cycle.
- Test results from the first cycle of classes showed an average gain of seven points.
- Participants described how their improved skills were being applied on the job, such as estimating the cost of items at the salad bar, measuring ingredients in food preparation, and understanding memos from supervisors. "Spill-over" effects of the program to home and community life were widely reported by participants. These effects included use of these job skills in reading to one's children, helping them with math, and setting an example of studying in the evening. Participants also reported feeling more confident in taking active roles in community activities such as church or neighborhood meetings.
- Participants described improvements in communication skills as particularly beneficial. They became more comfortable discussing problems and possible solutions with other workers and supervisors, using newly acquired skills as a framework to engage in problem-solving.
- The S.E.T. Program provided the impetus for new kinds of labor-management communication on workplace education

issues, both between union and company officials and between workers and their supervisors. This enhanced communication could be the basis for further joint education efforts.

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THE ABC's OF CONSTRUCTION (THE BASIC SKILLS WORKPLACE LITERACY PROJECT FOR INDUSTRIAL CONTRACTORS)

Baton Rouge, Louisiana

Partners: East Baton Rouge Parish Adult and Continuing Education Department
Greater Baton Rouge Chamber of Commerce

Project Background

The ABC's of Construction Project, located at the training center of the local chapter of the Associated Builders and Contractors, Inc., began operating in August 1991 to upgrade basic skills among employees of more than 200 industrial construction companies in the local petrochemical industry. During the "oil bust" of the early 1980s, Louisiana lost thousands of experienced workers in the petrochemical industry. Later in the decade the industry recovered momentum, and the resultant building boom created a shortage of skilled labor.

Most construction sites in the petrochemical industry are very hazardous and operate under increasingly strict environmental regulations. Workers must be able to assess situations, make accurate decisions, perform tasks in an accurate and safe manner, and communicate effectively with fellow workers. Louisiana's literacy rate is one of the lowest in the nation, and increasingly, entry level workers lack the basic skills to perform these functions adequately or even to undergo

training that would allow them to advance to higher levels.

The ABC project targets up to 150 members from three worker populations: students in the four-year journeyman trade courses who demonstrate gaps in basic skills; workers whose lack of basic skills prohibits them from entering a training course; and entry-level workers with little experience in the industrial construction workplace. It provides an opportunity for workers to upgrade reading, writing, math and employability skills. Training takes place at a large central training facility in Baton Rouge, rather than at actual worksites, because construction workers frequently change job sites. Instruction is offered on an open-entry, open-exit basis in the late afternoons and evenings, immediately after the normal construction workday ends.

Key Elements

- As of November 1991, the ABC Training Center required all entering craft-training students to undergo screening to identify those who need counseling and basic skills enhancement.
- Adult educators staffing the project assist craft instructors in teaching apprentice students math needed in class.
- The basic skills workplace program is part of a large training effort that was already well-established. It serves as a catalyst for the comprehensive training effort designed to help entry-level employees progress up the construction trades promotion ladder.
- Individualized multi-stranded instruction specific to each employee's particular job skill--such as carpentry, millwright, or welder--relies heavily on job-task analysis. The instructional program in each strand is correlated with a list of specific competencies necessary for success on the job and in the training program.
- The project meets the needs of each worker who requires learning assistance. As a result, individual learning plans have been written to accommodate workers who cannot read or write as well as those requiring trigonometry or algebra skills basic to their job performance.

- Literacy training materials are compatible with craft training materials within a contextual curriculum.
- Training videos, instructional software, calculators and telecaptioning are accessible as additional learning tools.
- Full-time staff at the Training Center constantly assure that curriculums are directly correlated with skills needed on the job.
- Each student's progress is assessed weekly, with updating of his or her individual learning plan as needed.
- The local Chamber of Commerce, which has more than 2,800 member investors, is actively involved in project coordination, public awareness, leadership, recruitment, and evaluation.
- The program's adult educators initially took time to become well versed in the construction industry, facilitating establishment of credible relationships with the businesses involved and enabling design of curriculums well tailored to the construction trades.

Results/Evaluation

- After only a few months of operation, the industries involved were convinced of the value of the project. Skepticism became enthusiasm, and the Training Center expressed a commitment to continue the program beyond expiration of federal funding.
- The project is using a variety of evaluation methods to measure changes in work habits, productivity, attitude, and basic task competency. These methods include competency-based pre-and post-tests, interviews or surveys, formal assessment instruments such as the Test of Adult Basic Education (TABE), and a questionnaire for supervisors. However, because the instruction is so individualized, precise across-the-board measures are difficult. For that reason, the education partner plans a follow-up study six months after the funding period ends to examine longer-term effects such as promotions, better retention and attendance, attitude improvement, and enhanced self-concept of employee participants.

- Several millwright students who attended for a "benchmark" 30 hours were tested and demonstrated an increase in math competencies from 35 percent to 85 percent. Students tested at 50 hours on the TABE demonstrated two years' growth in math skills.

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THE WEIRTON STEEL CORPORATION WORKPLACE LITERACY PROJECT

Weirton, West Virginia

Partners: West Virginia Northern Community College
Weirton Steel Corporation

Project Background

Weirton Steel Corporation is one of the largest industrial employee-owned companies in the nation and a primary employer in the northern panhandle of West Virginia. Its veteran workforce of about 7,000 averages 43 years of age, and includes both minorities and women. To remain competitive, the company recently introduced advanced technology, computerization, and an innovative, team-based style of management into its manufacturing facility. This necessitated a workforce with upgraded basic skills that could keep pace with changing demands in the workplace.

Through classes held at a variety of times to accommodate shift-workers, West Virginia Northern Community College in 1989 began providing instruction in reading, writing, and computational skills; computer literacy; oral communications; listening; time management, problem-solving and decision-making. Total enrollment in the courses exceeded 3,100, but many students took more than one class.

The community believes that the Workplace Literacy project has the potential to greatly improve the lives of many of its citizens, and has been extremely supportive. The Project has therefore received wide publicity throughout the state. An article featuring the program appeared in the April 1991 issue of the trade publication *33 Metal Producing*.

Key Elements

- Functional context curriculums were specifically developed for this project.
- Most instructors have job-related workplace training background. All instructors receive a thorough orientation that includes instructional techniques and adult learning theories. Before teaching on their own, new instructors must team-teach a class with an experienced project instructor.
- On-going assessment of the training throughout the project allows for frequent modification of course content, instructional materials, or delivery methods.
- All courses are designed to use practical applications and software which would be encountered in the workplace.
- Effectiveness was measured using surveys and interviews of trainees and supervisors after training completion.

Indicators of Success

- Enhanced skills indicated by employee mastery of competencies.
- The results of follow-up surveys of employees and supervisors indicate:

  --significant transfer of knowledge and skills learned in class to the workplace;
  -- increased productivity;
  -- improved product quality, and
  -- lower operating costs.

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WISCONSIN WORKPLACE PARTNERSHIP TRAINING PROGRAM

Madison, Wisconsin

Partners: Wisconsin Board of Vocational, Technical and Adult Education
Wisconsin State AFL-CIO
Wisconsin Manufacturers and Commerce

Project Background

The Wisconsin Workplace Partnership Training Program set a goal of providing workplace literacy training or other educational services to 1,113 employees of 11 companies located throughout the state. When the initial grant ended on August 1991, 1,498 employees had received basic skills training, including 34 who also received English as a second language instruction. All of the sites are manufactuers. Two are non-union and four are small businesses.

Wisconsin is currently operating its third grant from the Department. Under the program begun in March 1991, plans include orienting 18,536 workers to the program, assessing the basic skills of 3,913 workers, and providing instruction to 3,066 employees at 24 sites around the state. Basic skills training is provided at the worksite by certified technical college instructors from one of the eight participating Vocational, Technical and Adult Education districts.

Key Elements

- All three partners plan, operate and evaluate the program at each site to assure that the goals of each partner are being met.

- An individualized education plan is developed for each worker based on the needs of the employer and relevant job task analyses.
- Support services are available, including educational counseling, child care and transportation funds.
- State-wide staff development meetings for all partners enhance communication among the groups and facilitate setting future direction.
- Using project funds awarded over several cycles, the Wisconsin partners developed an original six-step guide to job task analysis showing how to create work-based curriculums that can be used for almost any type of business or industry. The guide illustrates how to identify work-related literacy skills in worker behaviors and how to design conceptual lessons for worksites. It includes sample interview schedules, observation worksheets, and meeting agendas. This "Workplace Educational Skills Analysis Training Guide" is available at no cost from the U.S. Department of Education, Division of Adult Education and Literacy Clearinghouse (listed in Appendix F).

Indicators of Success

- The labor-management-education partnership has developed better lines of communication through use of advisory committees. Program planning, implementation and evaluation are done ***with*** participants--not ***to*** them.
- Waiting lists of businesses interested in developing on-site learning centers are growing rapidly.
- 635 of the participants stated they reached their own goals and 438 tested higher in communications skills.

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"I think it's a real good opportunity. It gives the workers a second chance. It gives me a feeling that I'm more versatile. I can move around more instead of being attached to one machine and one job."

Submitted by Rex Ward
Project Director and
Director of Industrial Training & Development
Indiana Vocational and Technical College

ROAD MAP TO SUCCESS

Positive identification of what works and why is not an easy task in the new field of workplace literacy programs. Because the projects are customized to the specific needs of workers in various industries, a third question is almost always necessary: what works, why, and for whom? Three cycles of the National Workplace Literacy Program provide an adequate base of experience for preliminary analysis. Using that base, this chapter identifies key elements of and common barriers to success, and presents practical suggestions on how to build a project from the ground up to maximize the probability of success.

WHAT WORKS

Given the focus of national attention on the National Workplace Literacy Program, the U.S. Department of Education wasted no time in asking "What works?" A study of the program's first year was completed in June 1991 under contract by Pelavin Associates, Inc., in cooperation with the National Alliance of Business. The study reviewed all 37 projects funded in the program's first cycle. It also investigated in detail six geographically diverse programs identified by federal program managers as effective. The descriptive study identified four elements commonly associated with successful projects, but empirical data were not available to document that these components are essential for project success.[14]

- **Active and ongoing involvement by all project partners.** Education organizations at the study sites found business and labor union partners to be supportive of and actively involved in the projects. Typically, these partners provided classroom space, helped to monitor project services, and provided financial support for project services. Involvement of both upper management and on-line supervisors was found to be critical.

[14] Pelavin Associates, Inc., *A Review of the National Workplace Literacy Program*, 1990, p. v.

- **Active and ongoing involvement by employees.** Employees at the study sites were involved in the projects in numerous ways, including project planning, literacy task analyses, needs assessment, and advisory panels.

- **Systematic analysis of on-the-job literacy requirements.** In most sites, some sort of analysis of job-based literacy skill requirements was done. Some were formal and some were not. In the project's first year, only one formal analysis was attempted among the six sites studied in depth. However, information from work requirements was used by all the sites to inform the design of instructional services.

- **Instructional materials related to literacy skills required on the job.** All study sites used at least some instructional material related to job literacy requirements during the Program's first cycle. These materials included corporate manuals and instructions for operating machinery and equipment.

BARRIERS TO SUCCESS

New projects may encounter a variety of barriers to success. These barriers are sometimes due to the challenging goals Congress set for the program and sometimes due to the uncharted nature of the territory that businesses, unions and educators are exploring in attempting to establish workplace literacy programs.

- **The Need to Establish Effective Partnerships.** Almost any workplace literacy project must involve a cooperative relationship among private sector and education organizations. This is especially true of the National Workplace Literacy Program because strong written commitments from all partners are required before an application for funding may even be considered. Partners must agree on the goals of the project, their roles in it and the expected outcomes. While this sounds fairly simple, it is not. Agreements and cooperation can be obtained only when all partners candidly identify mutual interests and shared benefits. This process takes time and patient negotiation.

- **The Pitfalls of Developing Contextual Curriculum.** Workplace literacy programs are unlike standard adult education programs in that they are based on literacy skills workers use on the job. Job literacy and academic literacy are different sets of skills. Following are some common challenges in designing contextual curriculums:

  — ***Employer Proprietary Rights.*** Some employers may not wish to contribute job materials for curriculum development. They may be concerned about sharing trade secrets or information relating to productivity. Or they may not be familiar with the results of contextual curriculums and feel that a general literacy program is needed.

  — ***Understanding Curriculum Development.*** The need to create a contextual curriculum based on work is not satisfied by merely collecting materials from the job site and teaching workers how to read forms and directions. A curriculum is a conceptual system of planned learning objectives that leads the learner to literacy competencies needed on the job. These job-based competencies are flexible and transferrable to other job or home situations, but an ability to read a single form is not.

  — ***Understanding What Literacy Skills Mediate Job Skills.*** All aspects of job performance are not related to literacy skills. For example, a new worker could learn what to do and how to do it by watching a competent worker. However, if the new worker must learn by receiving oral or written directions for the task, literacy skills play an important role in job performance and productivity. Projects should focus on literacy skills that affect job performance if their goal is to increase productivity.[15]

- **The Need to Provide Staff with Additional and Substantially Different Training.** Educators who have been specifically trained, or who have trained themselves, to design and

[15] Sticht, T., *Evaluating National Workplace Literacy Programs*, 1991, p. 5.

deliver work-based curriculum at the work site are rare. Instructors can almost always benefit from additional training in literacy task analysis, the culture of the business or union to be served, how that culture affects workers, and how to adapt the delivery of instruction to changing—and unexpected—conditions at the worksite.

- **The Absence of Assessment and Evaluation Instruments Linking Job Gains to Productivity.** A major goal of the National Workplace Literacy Program is to promote American productivity. But reliable and valid measures to link learning gains to productivity measures such as increased quality, output, and lower staff turnover are just beginning to be developed.

- **The Difficulty of Creating Transferrable Models.** The National Workplace Literacy Program seeks new curriculums grounded in the context of workers' actual jobs. Workers' jobs can be sorted by type or size of business—for example, garment manufacturing or small business. Transferrable models of promising practices can be identified in this way. The process and concepts used in a curriculum for garment workers or small business workers may be useful to other similar sites. However, various jobs and the curriculums based on them are as subtly different as the industries themselves. A curriculum designed for garment workers manufacturing blue jeans would require adaptation before it could successfully be used for workers manufacturing childrens' wear. Within the transferrable processes and concepts, these differences must be accommodated.

- **The Difficulties of Carrying on the Project After Federal Funding Has Ceased.** While a number of industries have decided to continue the project after federal funding has ceased, many of the applicants—not-for-profit hospitals or nursing homes, for example—do not have the resources to continue the project. Increasingly, therefore, applicants for the National Workplace Literacy Program plan for institutionalization of their projects.

RECOMMENDATIONS FOR ENHANCING PROJECT EFFECTIVENESS

- **Start with a Conceptual Framework.** A number of persons interested in establishing workplace programs miss the fact that a good project demonstrates a concept. It is an idea put into an operational framework. The project holds together to illustrate a particular approach. When it is over, a process or product has been developed that is useful to others in similar situations. The reason for doing the project, as well as its achievements, are evident. For example, a project with a conceptual framework could serve hotel workers in an area of tourism with English as a second language skills based on their work. It could serve rural health care workers with basic skills needs. But trying to customize programs for a broad variety of workers in a number of unrelated industries would not be feasible.

- **Be Sure All Partners Understand and Buy Into Project Goals.** To achieve the level of commitment needed for a successful project, it is critical that all partners and the workers themselves be involved in project design and development. Each partner must understand its role in the project and agree on the goals to be accomplished. Partners buy in when they can identify how their own interests will be served by the project. Trust must be established. Long-range planning and open communication are key in achieving this relationship.

- **Be Sure Partners Share Governance.** Shared governance is critical if partners are to continue vesting in the project. Most of the National Workplace Literacy Program's successful projects establish advisory councils to share governance of the project among partners. Shared governance helps the project jointly develop policies to adapt to changing conditions, such as layoffs. It sustains commitment to the project. Advisory bodies also improve

communication among partners and serve as a forum for problem-solving. Shared governance increases a project's flexibility and survivability.

- **Design a Curriculum Based on Actual Jobs.** Several decades of seminal research and practice dealing with workplace learning show that generic basic skills instruction does not improve work performance. Contextual learning designed to use work experience as a frame of reference for learning new basic skills is effective. On the job, basic skills are used to locate information for immediate use and for problem-solving. This is different from traditional approaches to learning that focus on internalizing information for use later. Workplace literacy curriculum designers need to go into the work site, find out what basic skills the workers use every day, observe and talk to successful workers and supervisors and create a competency-based curriculum related to that work.

- **Be Creative.** Potential project partners should think creatively about the opportunities for work-related basic skills training, using available research as well as information from business or union partners. They should design new curriculums, develop software or video, or involve workers in peer support programs in new and exciting ways. If technical expertise is needed to pursue a creative approach, potential partners should look for resources to hire or contract for it.

- **Hire a Good Project Manager and Give the Manager Full Support.** Workplace literacy programs are more challenging to operate than others because they involve a number of partners who have key individual and mutual interests. A workplace literacy project needs a top-notch manager. The best background for success includes good management, interpersonal and negotiating skills. After the manager is hired, partners must work with the manager on decisions and give him or her the support needed to be effective.

- **Hire Teachers With Flexibility and Experience In Teaching Adults.** Teachers who are hired must be flexible and willing to adapt their experience in teaching to the workplace. Flexibility also allows teachers to buy into what may be a new concept of work-based contextual learning. Teachers with prior adult education experience understand that adults need to be actively involved in structuring their learning. These teachers approach adult learning in ways that differ from approaches used to teach children.

- **Perform Student Assessment and Project Evaluation in Ways that Relate Learning Gains to Work Outcomes.** Reliable and valid standardized tests linking learning gains to work-based outcomes such as output do not exist. Since traditional approaches to measuring adult learning gains are unable to relate gains to work, they should be used only in concert with other measures. Some examples of these alternative measures are portfolios that demonstrate work-related literacy skills, simulations, reports by supervisors assessing job competencies before and after training, and student or peer assessments of learning gains and their effect on work.

- **Help Partners Plan from the Outset How They Will Continue the Program.** Partners need to consider the cost of ***not*** creating a workplace literacy program as well as the cost of creating and sustaining such a program with, and ultimately without, federal assistance. A workplace literacy program with real impact cannot be a "quick fix." Partners need to take the long view. Partners need to plan how to increase their level of financial participation over the project period so that when federal support ends, private sector support can continue such services.

PRACTICAL SUGGESTIONS FOR NATIONAL WORKPLACE LITERACY PROGRAM APPLICANTS

- **Become familiar with the application and grant process and schedule** (Figure 9). Figure 10 provides guidance as to average grant amounts and number of clients served.
- **Obtain a copy of the most recent application**. The 1992 application will be published in the *Federal Register* in the spring of 1992. The *Federal Register* is available for reference at most large libraries. The 1991 notice was published on June 4, 1991, and included answers to the most commonly asked questions concerning the program. The question and answer portion of that notice is included as Appendix D.
- **Understand and respond to program criteria against which submissions are rated**. The staff of the National Workplace Literacy Program are available for technical assistance to applicants (Appendix F).
- **Visit or call an operating project** (Appendix A).
- **Obtain a copy of an actual application**. Copies are available from a grantee or by writing to the Department (Appendix F).

Figure 9. Typical Workplace Literacy Program Timelines

YEAR ONE	
Spring	Publication of official Notice Inviting Applications in *Federal Register*. This is the application package.
Summer	Deadline for transmittal of applications to the U.S. Department of Education, usually 45 calendar days after publication of the invitation.
Fall	The Department assembles panels of experts to determine grant awards.
Winter	The Department analyzes the applications that will be funded for compliance with federal regulations in preparation for negotiations on actual funding amounts.
YEAR TWO	
Winter	The Department negotiates grant awards.
Spring	The Department announces grant recipients.

Figure 10. National Workplace Literacy Program Grants

	FY88	FY89	FY90	TOTAL
Average Size	$249,009	$303,494	$270,163	$274,222
Average No. Served	539	396	404	446
Range of Grant Amounts	$47,079-$48,572	$60,956-$858,348	$73,776-981,256	$60,604-767,392

"Aida had only recently arrived from Puerto Rico when she enrolled in the Workplace Literacy Program to improve her English. With her new-found confidence and language skills, Aida found part time work as a lab assistant at a local hospital soon after graduating from the program, and went on to a full time lab technician job at Yale University.

Submitted by Ruth Howell
Director, Workplace Literacy Program
Greater Hartford Community College

THE FUTURE

EFFECT OF NEW LEGISLATION

On July 25, 1991, President Bush signed into law the National Literacy Act (P.L. 102.73). The new Act changed the National Workplace Literacy Program in a number of ways. Changes were made by Congress in response to requests from the field and the experience of Department of Education officials.

- **The statute modified the program's matching requirement.** It extended to all eligible grantees a three-month start-up period during which the 30 percent matching requirement for administrative costs is waived. This provision had formerly been limited to state departments of education and local school districts.

- **The Act placed a priority on applications from partnerships that include small businesses.** The priority is designed to overcome the difficulties small businesses encounter in competing to provide literacy instruction based on work, as required by the Program. For example, small businesses have a limited number of employees. These employees frequently have the greatest need for basic skills. The Act also required that the Secretary of Education consult with the Secretary of Labor and the Administrator of the Small Business Administration when making grants under this Program.

Because of the limitations on the size of the small business workforce, several businesses often work together to ensure a sufficient number of learners for classes. The businesses are usually of different types. Resources available for training in small busineses are often limited. Framing contextual curriculums for learners from a variety of business locations is a significant barrier to meeting the Program's requirements for customization.The priority also will have a positive effect in calling national attention to the needs of small business for assistance in providing programs of workplace literacy. More applicants will design programs to address the workplace literacy needs of small businesses as a result of this emphasis.

- **The statute allowed a grant period of up to three years in response to requests from the field.** It was evident from the program's early experience that projects needed more time to adequately address job task analysis, develop curriculums and demonstrate programs. Grant periods in the first cycle of the program were limited to 15 months, and extended in the second cycle to 18 months. The 1991 statutory revision makes it possible for the U.S. Department of Education to make three-year grants.

- The National Literacy Act established a new program entitled the National Workforce Literacy Assistance Collaborative within the Department of Labor. The collaborative will provide technical assistance to small and medium-sized businesses, identify and disseminate promising practices, and promote coordination and cooperation among workplace literacy efforts at the federal, state, and local levels.

- The statute created a new program of National Workforce Literacy Strategies grants at the U.S. Department of Education. The new program will become effective when appropriations for the National Workplace Literacy Program reach $25 million. At that point, the Secretary of Education may reserve up to $5 million for large-scale grants to develop national strategies in workforce literacy. When $5 million is reserved, at least five grants of $500,000 must be awarded. The Secretary anticipates that grants will demonstrate national strategies that would apply to a specific business or industry type, such as auto manufacturing or health care, or to an industry severely affected by international competition. Grants might also demonstrate new methods of involving workers in all aspects of such a project or include ideas that would test new evaluation approaches and indicators of program quality. Basic skills taught would include communication skills, interpersonal skills, and problem-solving.

LONG-TERM STRATEGY

Transitioning to High Performance Organizations

Whatever the future holds for American workers, analysts agree that workplace or workforce education will be an important issue for the next several decades. Three-fourths of those who will be working in the year 2000 are already out of school. Many are on the job. Reform in the schools will therefore not ameliorate the problem of current workforce education deficiencies. Filling the jobs that will be created by the year 2000 means equipping persons already in the workforce with the educational tools they need.[16]

But the shape and scope of workplace programs are evolving to keep pace with a dynamic workplace environment. Reports by the Secretary's Commission on Necessary Skills (SCANS), labor groups, and academicians have focused on the future of workplace education programs that must be in step with changes in the American system of production.

The future of workplace literacy is linked to the American economy's move from traditional production organizations to high performance organizations (Figure 11). Traditional production organizations are based in nineteenth and twentieth century theories of management and productivity. Such organizations emphasize large-lot manufacturing to create a sufficient inventory. Products serve the ultimate consumer with limited options. Product development time is lengthy and new products are infrequently developed. The production process emphasizes cutting costs and increasing units produced.[17]

High performance organizations handle the production process differently. Such organizations emphasize customized products that are built to order. Inventories are small. Development time is short. New products are frequently developed. The business or industry perceives its "customers" to be not only the ultimate consumer, but also others on the production line for whom quality must be maintained. Jobs involve every member of the workforce in product

[16] Hudson Institute, *Workforce 2000.*

[17] Stein, S., and Sperazi, L., *Workplace Education and the Transformation of the Workplace*, 1991.

Figure 11. WORKPLACE EDUCATION IN CONTEXT: A COMPARISON OF TRADITIONAL AND HIGH PERFORMANCE ORGANIZATIONS*

Traditional		High Performance
ROLE OF WORKPLACE EDUCATION		
Company has no long-term strategy that integrates education and training into overall business plan.	→	Education and training are conceived as part of long-term strategic plan for continuing improvement.
Company distinguishes between education and training for management and line workers.	→	Company puts a premium on "developing and realizing the full potential of the entire workforce."
Short-term goals for education and training.	→	Goals for education are long-range as well as short-term.
Workplace education is preparation for action.	→	Workplace education is action.
Workplace education is remedial, focusing on filling gaps in workers' job-specific skills.	→	Workplace education is more than remedial; it focuses on building skills for continuous improvement and flexibility as well as job specific skills.
No release time from work allowed.	→	No conflict perceived between production and education: education takes place on work time.
DEVELOPMENT IMPLEMENTATION OF WORKPLACE EDUCATION PROGRAM		
Top management not vested.	→	Top management vested in setting goals and outcomes.
Workers, supervisors, or unions not involved.	→	Participatory planning, implementation and evaluation involving management, workers, union and educators.
Decisions on what and who to teach based on analysis of job-task specific deficits.	→	Decisions on what and who to teach based on company-wide continuous improvement goals and needs defined by specific work groups.
Testing separate from instruction.	→	Testing integrated into instruction.
Content of instruction narrowly job specific.	→	Basic skills taught within framework that focuses on continuous improvement of skills.
Efforts to measure outcomes focused on education: short-term job-specific skills gains.	→	Approach to measuring outcomes focuses on impact on individual worker performance and organizational goals.
No plans for institutionalization.	→	Company has plans not only for institutionalization but also for better integration of education into on-the-job practices.

** Excerpted from chart developed by Stein and Sperazi.*

improvement, efficiency and customer satisfaction. The emphasis in the production process is on productivity and growth.[18]

Traditional industries operate in a hierarchy with multiple levels of management. Managers control workers' activities and workers are considered tools in the production process. Jobs are broken down into simple rote tasks and workers are expected to repeat these tasks with machine-like efficiency. Workers are valued for their reliability, steadiness and willingness to follow directions. Since cost is this system's driving force, workers may fear that improvements in production will eliminate their jobs. But traditional manufacturing approaches are unable to meet competition in global markets with twenty-first century standards.[19]

In high performance organizations, participatory management practices reduce layers of management. Managers function as coaches. Workers are viewed as resources and work in self-managing teams. Jobs involve workers in the continuous improvement of the process. Workers are valued for their contributions to solving problems creatively. Since improvements in the process and products are the driving factor of this system, workers do not fear loss of their jobs as a result of changes in the production system.[20]

As the American economy transitions to the twenty-first century, more and more companies have become aware of the need for workplace education. It is seen as a means of preparing the workforce in a traditionally organized workplace for the different expectations of high performance work organizations. However, it is often difficult for education programs put in place in traditional organizations to assist with this transformation because the assumptions of the organization about the role of education are traditional. For example, in traditional organizations, workplace learning is not viewed as a meaningful activity in relation to the production process. Traditional workplace programs are short-term and problem-centered. They are viewed as preparation for action--a remedial activity that fills gaps in workers'

[18] *Ibid.*
[19] *Ibid.*
[20] *Ibid.*

abilities to perform job-specific skills. The "real" activity is viewed as job training which follows workforce education. There is a presumed conflict between education and production, and workers are not given release time for participation in learning.[21]

High performance organizations view workplace education as an integral aspect of the production process. Education and training are conceived as part of a long-term strategic plan for continuous improvement. Education goals are both short and long-term. This process is more than remedial. Workplace education focuses on building skills for continuous improvement and flexibility at work (cross-training) as well as task-specific education skills. Training prepares workers not only for current jobs, but also for future positions in their industries. In short, high performance organizations do not perceive a conflict between production and education. Workers are given release time for education.[22] Of the 1991 National Workplace Literacy Program grants, more than half provided some release time for workers to participate in learning.

PREPARING FOR A BETTER WORKPLACE LITERACY FUTURE

At least five issues will shape the future of workplace education programs, and each has a critical role to play in the design of effective projects.

Partnerships

Successful workplace programs require investment by all partners in an active relationship dedicated to the success of the workplace effort. Issues involving partnerships were identified at a 1991 meeting of National Workplace Literacy Program project directors as the most important element in the future of the Program.[23] As organizations move from traditional to high performance structures and incorporate workplace education as a long-term production strategy, partnerships

[21] *Ibid.*
[22] *Ibid.*
[23] U.S. Department of Education, *Voices from the Field: Proceedings of the September 1991 National Workplace Literacy Program Project Directors Conference*, Spring 1992.

will become more complete. Both the education and the business partners' organizational boundaries will increase. Continuous flows of information and processes of interaction around shared goals will commingle these organizations in permanent ways. The understanding of each organizational culture by the other will become more complete. Each organization will adopt successful strategies from the other. For example, education organizations will focus more readily on performance outcomes and private sector partners will focus more readily on a permanent investment in the future of each worker not only as part of the production process, but also as a whole person.

Assessment and Evaluation

A thorny issue for the future of workplace education programs is the extent to which learning gains can be linked to performance on the job. The future appears to point to alternative assessment procedures, with an emphasis on multiple approaches such as portfolio assessment, peer assessment, simulations, documentation of incidental learning--including ability to participate in other programs or solve problems--and increased measurement of work-based outcomes. It is also anticipated that student assessment will be customized using different measures to tailor the assessment approach to particular individuals and their industries. Creative work by projects and test developers may be able to link learning gains to work outcomes in valid and reliable ways. Increasingly, workplace literacy evaluators recognize that no single data-gathering instrument can capture the accomplishments of workplace programs. A number of instruments--especially those which are competency-based--will be required. New skills in analysis will also be needed to integrate the results from a variety of measures into an accurate picture of program outcomes.

Worker Involvement

As organizations move toward high performance, workers become more important in the production process and in the design of workplace education programs. Workers will play a key role in focus groups developing the programs at the worksite and will be active players in goal-setting, assessment development and evaluation aspects of education projects. Release time will be given for

workplace education as employers incorporate these programs into long-term management strategy and workers recognize them as part of larger packages of benefits available in the workplace.

Staff Development

Partnerships are increasingly recognizing that instructors in workplace literacy programs need special skills that extend beyond training for traditional adult education. Programs are being developed that focus on professional training for workplace literacy instruction and management of workplace programs. Professionalization of the field of workplace literacy instruction will be enhanced most significantly by involvement of full-time staff in high performance organizations and by the growth of professional associations of workplace literacy educators.

Institutionalization

Institutionalization of programs--or continuation of programs after federal funding expires--will occur more frequently as private sector partners take the long view of investments in their workforce and in workplace literacy programs. Federal policy will promote institutionalization of funded projects. Proposals that do not demonstrate how industries plan to assume funding responsibility for the program after federal funding ends are unlikely to be regarded as highly competitive.

A FINAL WORD

Workplace literacy education is poised to meet future challenges. Workplace literacy programs are putting theory into practice to address the needs of a rapidly changing workplace. Innovative partnerships, curriculums, teaching methods, testing and evaluation approaches are being created to meet the challenge of the National Goal for Adult Literacy and Lifelong Learning. It is this goal that is at the heart of the National Workplace Literacy Program. This Program, perhaps more than any other, strives to prepare adult Americans for the world of work in the 21st century, by assuring that they "...will be literate and will possess the knowledge and skills necessary to compete in a global economy..."

As the number of projects and partnerships expands, the National Workplace Literacy Program is demonstrating the benefits of investment in human resources by employers and commitment to lifelong learning by employees. Workers and employers are reaping the benefits today. The nation will reap the benefits for many years to come.

"My employee was involved in the ESL class wrote a first-line supervisor. I have seen a direct improvement in his confidence level. He will now come talk to me instead of having someone else come to ask questions for him. He talks much more freely. His initiative is greater and he looks more motivated. This same employee completed a 40-hour Robot Operating Training Course with two other employees who spoke English as their first language. He was able to participate equally in the training due to his increased English skills.

(Submitted by Julie Van Moorhem
Director of Workplace Literacy
Salt Lake Community College)

APPENDICES

APPENDIX A

NATIONAL WORKPLACE LITERACY PROGRAM PARTNERS*

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
ALABAMA		
	Opelika City Schools **Opelika State Tech. College** **North Central Alabama Basic Education Program** **Wallace State Community College** **Hanceville 205/352-2090** $355,334 Amerlcold Compressor Corp. Ampex Recording Media Corp. Cullman Electnc Coop Green Thumb	**Central Alabama Community College** **Alexander City** **205/234-6346** $242,649 Robinson Foundry, Inc. **Enterprise State Jr. Coll.** **Enterprise 205/347-2623** **MacArthur State Tech. Coll.** $461,127 Alfab, Inc. ConAgra Boiler Co. Dorsey Trailers, Inc. Duracast, Inc. Reliable Products, Inc. Sessions Co., Inc. Utility Trailer Corp. *International Assoc. of Machinists* **Northwest Alabama Community College** **Phil Campbell 205/993-5331** $285,547 Hyster Corp. NTN Bower Corp. 3M Corp. **Patrick Henry State Jr. Coll.** **Monroeville 205/575-3156** $183,054 Boise Cascade Vanity Fair

** Red bolded text denotes the education partner(s). Black text denotes business partners. Black italicized text denotes labor organization partners.*

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
ALASKA		
		Anchorage Workplace Literacy Project **Anchorage 907/337-1981** $205,852 Carr's Quality Centers Q-1 Service Sheraton Anchorage
ARIZONA		
Pima Cnty. Supt. of Schools **Tucson 602/884-8628** $72,666 Curtis Electronics Pima Cnty. Private Industry Coun. Shape West		**Pima Cnty Supt. of Schools Arizona Consortium for Ed. & Training** **Tucson 602/740-8695** $138,555 Southern Arizona Innkeeper's Association
CALIFORNIA		
Assoc. of Cultural & Soc. Advancement for Vietnamese, Inc. **San Jose 408/279-5352** $168,200 North Valley Job Training Consortium PIC Tandy Magnetic Media **Los Angeles Unified Sch. District** **Los Angeles 213/625-6471** $428,528 Domino's Pizza Distribution Corp. Educational Data Systems, Inc.	**CA Human Development Corp./Farmworker Prog.** **Santa Rosa 707/449-8660** $171,392 Blossom Farms California Human Dev. Corp. Clos DuBois Wines Hambrecht & Peterson (Vineyards) Reclaimed Island Lands Co. Sebastiani Vineyards **El Camino Comm. Coll. District** **Torrance 213/715-3123** $241,133 Hitco **Santa Clara County Office of Education** **San Jose 408/453-6907** $201,654 *Service Employees International Union, AFL-CIO Local 715*	**Career Resource Dev. Ctr.** **San Fran. 415/775-8880** $320,784 Ace Mailing,Inc. Direct Language, Inc. **Napa Valley Unified School District** **Napa 707/253-3594** $226,203 Beringer Vineyards Domain Chandon Mondavi Winery Silverado Vineyards Walsh Vineyards Mgmt. Winegrowers Farming Co. **Peralta Com. Coll. District (Merritt College)** **Oakland 415/836-6530** $276,900 *No. California Joint Council of Service Employees No. 2* **Santa Clara Unified School District** **Santa Clara 408/984-0631** $73,776 Santa Clara Kaiser Hospital (Kaiser Permanente)

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
COLORADO		
	Lutheran Family Services of Colorado, Inc. **Colorado State University Div. of Continuing Education** **Ft. Collins 303/484-5955** $95,899 Hewlett Packard	**Arapahoe Comm. Coll.** **Littleton 303/797-5719** $266,022 C. A. Norgren Co. Marquest Medical Products Metrum Info Storage Wilkerson Corp.
		Colorado State University **Ft. Collins 303/491-6741** $233,030 Eastman Kodak Co.
		Community Colleges of Aurora, Denver, Denver-Tech, Pikes Peak, and Pueblo **Col. Comm. College & Occ. Ed. Syst. (grantee)** **Denver 303/620-4000** $620,060 AT&T CO Fuel and Iron (CF&I) Commerce Bank Aurora Digital Corp. General Motors Parts Hewlett-Packard Latino Chamber of Commerce New Life Fitness Center Sky Chef Stanley Aviation Corp U.S. West
CONNECTICUT		
Waterbury Ed. Dept. Multi-skill Ed. Training Cntr. **Waterbury State Tech. Coll.** **Hartford 203/574-6971** $310,516 Greater Waterbury Private Ind. Council	**Greater Hartford Comm. Coll.** **Hartford 203/520-7849** **$379,946** Aetna Life and Casualty CIGNA Connecticut Bank and Trust Connecticut National Bank Ensign-Bickford Corp. Hartford Insurance Group Pratt & Whitney Travelers	**Manchester Comm. Coll.** **Manchester 203/647-6089** $315,378 B&B Assoc. J. T. Slocomb Co. Lydall, Inc. Pratt & Whitney **State Dept. of Education** **State Council on Voc-Tech Education**

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
		State Dept. of Higher Ed. $396,910 Conn. Bus. & Industry Association (grantee) Hartford 203/547-1661 Conn. Spring & Stamp Corp. General Dynamics Taylor and Fenn Co. Wiremold Co. **Univ. of Connecticut** $286,357 *Laborers-AGC Education & Training Fund (grantee)* Hartford 203/974-0800
DISTRICT OF COLUMBIA		
Council for Adult & Experiential Learning $395,803 *Int'l Bricklayers Union* *Int'l Masonry Institute (grantee)* **202/783-3788**	**AFL-CIO Human Resources Development Institute** $338,580 *Food and Bev. Workers Union Local #32 and Employers Benefits Fund (grantee)* **202/393-3232** **Home Builders Institute** **202/822-0550** $392,143 Homebuilders Assoc. of Louisville, KY; OR & UT Suburban Maryland Building Industry Assoc.	**Plan, Inc.** **202/547-8903** Washington Hospital Center $229,776
FLORIDA		
Dade Cnty. Public Schools **Miami 305/324-6070** $394,620 Cedars of Lebanon Hosp. Jackson Memorial Hosp. Mt. Sinai Hospital **Orange Cnty. School Board** **Orlando 407/422-3200** $298,205 Epcot Florida Restaurant Assoc. Hotel/Motel Assoc. Lake Buena Vista Palace Marriott's Orlando World		**Brevard Comm. College** **Patrick AFB 407/784-1911** $261,967 Harris Corp., Semiconductor Sector **Florida Comm. College** **Jacksonville 904/633-8337** $396,773 CSX Transportation Excel Industries of Florida Jefferson/Smurfit Corp./Container Corp. of America Memorial Medical Center/ Jacksonville

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
Orlando Convention and Visitors Bureau Peabody Hotel Regal Marine Sheraton World Hotel		Seminole Kraft Corp. University Medical Center Vistahon, Inc. Xomed-Treace **Indian River Comm. Coll.** **Ft. Pierce 407/468-4700** $193,169 Treasure Coast Harvesting Assoc. **Miami-Dade Comm. Coll.** **Miami 305/347-2678** $310,470 Sunrise Community **Pensacola Junior Coll.** **Pensacola 904/484-1709** $202,958 Armstrong World Industries **School Bd. of Palm Beach** **Dept. of Adult/Comm. Ed.** **Palm Beach Gardens** **407/624-2307** $185,034 CMAC of America, Inc.
GEORGIA		
Georgia Southern College **Statesboro 912/681-6785** $441,139 Emerson Electric Co./ Brooks Instrument Div. Grinnell Corp. **Georgia State University** **Atlanta 404/651-2405** $139,330 Grady Memorial Hospital	**Literacy Action, Inc.** **Atlanta 404/524-1966** $204,270 Atlanta Chamber of Commerce Private Industry Council of Atlanta	
HAWAII		
University of Hawaii at Manoa **Honolulu 808/948-7834** $189,056 Sheraton Waikiki	**Calif. Human Dev. Corp.** **Hawaii Human Development** **Honolulu 808/523-8628** $161,236 *International Longshoremen and Warehousemen's Union Local 142*	**Calif. Human Dev. Corp.** **Hawaii Human Develop.** **Honolulu 808/523-8628** $116,705 Waialua Sugar Co. *Intn'l Longshoremen and Warehousemen's Union Local 142*

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
	Hawaii Community College **Hawaii State Dept. of Ed.** **Hilo Comm. College** **Honolulu Comm. College** **Kauai Comm. College** **Leeward Comm. College** **University of HI Employment Training Off. (grantee)** **Honolulu 808/587-2600** **Windward Community Coll.** $241,551 United Public Workers **Univ.of Hawaii at Manoa** **Honolulu, 808/948-7834** $273,063 Sheraton Hotels in Hawaii	**Pacific International Center for High Tech Research** **Honolulu 808/539-1538** $196,952 Palau Pacific Resort
IDAHO		
Consortium of Area Vocational Schools **Boise 208/334-3213** $292,000 Idaho Assoc. of Private Industry Councils		
ILLINOIS		
Northwest Educational Coop. **Travelers & Immigrants Aid** **Des Plaines 708/803-3535** $133,371 Denoyer-Geppert Science Co. L & B Wood Co. Magid Glove Co. **Triton College** **River Grove 708/456-0300** $308,227 *Labor Management Ctr.* **Waubonsee Comm. College** **Aurora 708/892-3334** $68,559 Plano Molding	**Community Consolidated School Districts #214 & 54** **Northwest Educational Coop.** **Travelers & Immigrants Aid** **Des Plaines 708/803-3535** $396,591 Bloomfield Industries Bretford Mfg., Inc. Briskin Mfg. DuPage Diecasting Duraco, Inc. GM, Electro-motive Div. Management Assoc. of IL Multigraphics Shure Bros., Inc.	**Illinois Eastern Comm. Coll** **Mt. Carmel 618/262-8641** $184,010 Snap-on Tools Corp. **(Northwest Ed. Coop.)** **Adult Learning Res. Ctr.** **Comm. Consol. School District #214** **Des Plaines 708/803-3535** $394,321 Ballco Mfg., Inc. Elkay Mfg. Co. FEL-PRO, Inc. Hu-Friedy Mfg. Co. Morris-Kurtzon Lighting Co. R&J Frisby Mfg. Co. Sloan Valve Co.

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
INDIANA		
	El-Tip-Wa Adult Learning Ctr. **Logansport 219/921-4772** $146,901 Winamac Division **Indiana Voc/Tech College** **Indianapolis 317/742-1595** $298,834 *United Auto Wkrs-Chrysler Region 3 Training Center* **Lafayette Ad. Reading Acad.** **Lafayette 317/742-1595** $60,955 St. Elizabeth's Hospital	**Indiana Voc/Tech College** **Indianapolis 317/921-4772** $277,693 Allison Transmission Division Transmission Div. *UAW Local 933*
KENTUCKY		
Eastern KY University **Richmond 606/622-1224** $259,154 Appalachian Computer Services	**Jefferson Co. Public Sch.** **Louisville 502/473-3400** $335,579 Datassistants Falls City Temporaries Kelly Services Metro Temporaries Olsten Services Paula York Personnel Personnel Pool Tempo Temporaries	**Kentucky Workforce Development Cabinet** **Frankfort 502/564-2117** $277,693 GM Corp. *UAW Local 2164*
LOUISIANA		
		East Baton Rouge Sch. Bd. **Baton Rouge 504/929-5425** $202,654 Greater Baton Rouge Chamber of Commerce **Louisiana State University** **Shreveport 318/797-5369** $192,762 LSU Medical Center

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
MAINE		
		Northern Oxford Voc. Area--Region 9 **Maine School Administra. District #44** **Rumford 207/364-2074** $200,842 Bethel Furniture Stock, Inc. Boise Cascade Mecon Mfg. Corp. Poland Spring Bottling Co. **Sanford Public Schools** **Sanford 207/324-2898** $144,198 The Baker Co., Inc. Jagger Bros., Inc. Sprague Electric Co.
MARYLAND		
MD State Dept. of Ed. **Baltimore 410/333-2178** $303,023 *Metropolitan Baltimore Council of AFL-CIO Unions* **Prince George's Cnty. Public Schools** **Landover 301/386-1512** $77,011 Prince George's County Private Industry Council	**MD State Dept. of Ed.** **Baltimore 410/333-2178** $301,163 *The Metropolitan Baltimore Council of AFL-CIO Unions*	**Catonsville Comm. College** **Owings Mills 301/363-4111** $240,500 Admiral Envelope John D. Lucas & Co. Port City Press Printing Industries of MD **Essex Community College** **Baltimore 301/522-1642** $278,010 Martin Marietta *UAW Local #738* **Maryland State Dept. of Ed.** **Baltimore 410/333-2178** $333,801 *The Metropolitan Baltimore Council of AFL-CIO Unions* **Prince George's County Board of Education** **Landover 301/386-1512** $101,080 Prince George's Co. Private Industry Council

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
MASSACHUSETTS		
Cambodian Mutual Assistance Assoc. **Lowell 508/454-4286** $34,140 Altron, Inc.	**Chinese-Amer. Civic Assoc.** **Commonwealth Literacy Campaign** **Employment Connections, Inc.** **Job Trng. & Employ. Corp.** **Lawrence Adult Learning Cntr.** **Massachusetts Dept. of Employment and Training** **Quinsigamond Comm. Coll.** **Southeastern MA University** **Southern Worcester County Employ. & Trng. Agency** **University of Massachusetts** **Massachusetts Dept. of Ed.** **Quincy 617/770-7473** $511,486 Aerovox, Inc. Fraen Corp. Friction Materials, Inc. Kennedy Die Casting Madison Cable Corp. Presmet Corp. South Cove Manor Nursing Home Spir-it, Inc. *Am. Fed. of State, County & Munic. Emp. Local 1776*	**Cambridge Community Learning Center** **Chinese American Civic Association** **Clinton Adult Learning Ctr.** **MA Dept. of Employ. & Trng.** **Mt. Wachusett Comm. Coll.** **Quinsigamond Comm. Col.** **Massachusetts Dept of Ed.** **Quincy 617/770-7473** $390,949 Cambridge City Hospital James River Corp. Ken-Weld Co. Montachusett Opportunity Coun. Montachusett Priv. Ind. Council Neville Manor Nursing Home Norton Co. Nypro, Inc. L. Hardy Co. *Int'l Ladies' Garment Workers Union*
Community Action, Inc. **Haverhill 508/373-1971** Alpha Industries $66,011		
Continuing Ed. Institute **Needham 617/449-4802** $255,720 Armenian Nursing Home Greenery Rehabilitation Center Lemuel Shattuck Hospital Massachusetts Long Term Care Foundation Vernon Hall Westridge Health Care Center		**Continuing Ed. Institute** **Needham 617/449-4802** $303,804 Armenian Nursing Home Goddard House Greenery Rehabilitation & Skilled Nursing Ctr. Sherrill House, Inc. City of Boston Dept. of Health and Hospitals
		Massachusetts Career Dev. Institute **Springfield 413/781-5640** $159,043 Geriatric Authority of Holyoke *United Food and Commercial Workers, Union Local 1459*

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
Roxbury Comm. College **Boston 617/541-5305** **$320,081** Boston PIC *Massachusetts AFL-CIO*		
MICHIGAN		
Carman-Ainsworth Community Schools **Flint 313/732-9770** $299,745 *United Auto Workers Local 659* GM: Flint Metal Fabricating Plant	**Mich. Ctr. for Adult Learning & Literacy** **Michigan Dept. of Education** **Central Mich. Univ. (grantee)** **Mt. Pleasant 517/774-3249** $278,969 *United Auto Workers-GM Human Resource Center* **Industrial Technology Inst.** **Wayne County Comm. Coll.** **Ann Arbor 313/769-4388** $229,997 National Steel: Great Lakes Div.	**Alpena Comm. College** **Alpena 517/356-9021** $266,090 Besser Co. *Thunder Bay Labor Council* **C.S. Mott Comm. College** **Flint 313/762-0425** $300,000 Albar Industries Durakon Industries Flint Area Chamber of Comm. Johnson Controls Metropolitan Chamber of Com.
MINNESOTA		
Normandale Comm. College **Minneapolis** **612/448-5787** $221,426 Hennepin-Carmen-Scott Service Delivery Area Combined Priv. Ind. Council		**Northeast Metropolitan Tech. College** **Minneapolis 612/331-2637** $337,592 Wintz *Minneapolis Teamsters Service Bureau* **Robinsdale Area Schools, ISD 281** **Plymouth 612/550-5548** $113,760 Schneider (USA), Inc.
MISSISSIPPI		
East Miss. Comm. Coll. **MS Gulf Coast Comm. Coll.** **Hinds Comm. College** **Laurel School District** **Northwest MS Comm. Coll.** **Miss. Dept. of Ed. (grantee)**		**Mississippi Band/Choctaw Indians** **Philadelphia 601/656-5251** $244,089 Chahta Enterprises

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
Jackson 601/359-2566 $374,809 Baldor Electric Bryan Foods Crown, Cork & Seale Flex Steel General Corp. Polymer Prod. Ingalls Shipbuilding *Internat'l Brotherhood of Electrical Workers, Local 1317* Paceo Packard Electric Panola Mills		
MONTANA		
		Flathead Valley Comm. Col. **Helena 406/761-0412** $388,759 Champion Int'l Corp. *Lumber, Production & Ind. Workers Local 2581* *Montana State AFL-CIO*
NEBRASKA		
		Central Tech. Comm. Col. **Columbus 402/564-7132** $212,565 Appleton Electric Co.
NEW JERSEY		
N. J. Dept. of Ed. **Trenton 609/777-1462** $325,000 The Horsemen's Benev-olent & Protect. Assoc. The Standardbred Breeders Assoc. *UAW, District 65 - AFL-CIO*	**Rutgers University** **New Brunswick 908/932-0269** $550,477 Robert Wood Johnson University Hospital St. Peter's Medical Center	**Cumberland County Community College** **Vineland 609/691-8600** $89,192 Wheaton Injection Molding Co. **Mercer County Comm. Coll.** **Trenton 609/586-4800** $289,328 GM Inland Fisher Guide Plant Princeton Plasma Physics Lab St. Francis Medical Center

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
NEW MEXICO		
	New Mexico State Univ. **Las Cruces 505/646-2027** $118,286 Memorial General Hospital	
NEW YORK		
Long Island University **Brooklyn 718/403-1019** $275,220 Private Industry Council of New York	**Center for Advanced Study in Education** **City Univ. of NY Grad. Sch.** **New York 212/642-2937** $152,204 *The New York City Central Labor Council* **Long Island University** **Brooklyn 718/403-1019** $383,854 Private Industry Council of NY	**Literacy Assistance Ctr. Inc.** **New York 212/267-5309** $166,314 *NYC Central Labor Council* **New York State Dept. of Ed.** **Albany 518/474-5506** $349,115 *NYC Central Labor Council* **Onondaga-Cortland-Madison BOCES** **Syracuse 315/451-6054** $289,328 Crucible Specialty Metals Die Molding *GMC Local 381* GM: Inland Fisher Guide New Process Gear Division Oberdorfer Foundry Syracuse China *UAW Locals 624, 854, 1060 and 1826* *UAW Region 9 Trng. Ctr.* *United Steel Workers of Am Local 1277*
NORTH CAROLINA		
Fayetteville Technical Community College **919/323-1706 ext. 351** $260,224 Black and Decker M. J. Soffee	**Piedmont Comm. College** **Roxboro 919/599-1181** $300,707 Burlington Industries Collins & Aikman Corp.	**Forsyth Tech. Comm. Coll.** **North Carolina State Univ.** **Raleigh 919/737-7982** $298,705 Sara Lee Knit Products Co.

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
OHIO		
Opportunity Industrialization Center of Clark County **Springfield** **513/323-6461** $56,521 Navistar International	**Ohio State University** **Columbus 800/848-4815** $389,280 General Motors: Inland Fisher Guide Division **University of Toledo** **419/244-3900** $249,979 Toledo Area Private Industry Council Chrysler:Toledo Jeep Assembly Pl Toledo Area Priv. Ind. Council *UAW Local 12* *UAW Region 2-B*	
OREGON		
	Clackamas Comm. College **Mt. Hood Comm. College** **Northwest Regional Ed. Lab.** **Portland Community Coll.** **Portland 503/275-9591** $399,061 Assoc. General Contractors, Oregon-Columbia Chapter Fred Meyer, Inc. Leupold & Stevens, Inc. L.W.O. Corp. Nabisco Oregon Cutting Systems Oregon Trucking Association OR-WA Carpenters/Employers Apprenticeship & Training Trust Precision Cast Parts *Northwest Oregon Labor Coun.* *United Brotherhood of Carpenters & Joiners of Am., Local # 247* *Int'l Brotherhood/Teamsters Locals 162 and 206* *Joint Council of Teamsters 37*	

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
PENNSYLVANIA		
PA State Univ. Institute for Study of Adult Literacy **Pennsylvania Dept. of Ed.** **Harrisburg 717/787-5532** $435,188 *American Fed. of State, Cnty. & Municipal Emp. (AFSCME), Council #13, AFL-CIO*	**Pennsylvania State Univ.** **Pennsylvania Dept. of Ed.** **Harrisburg 717/787-5532** $838,348 *AFSCME, Council #13, AFL-CIO*	
RHODE ISLAND		
		Brown University **Providence 401/863-2704** $161,531 Hospital Assoc. of RI
SOUTH CAROLINA		
		Clemson University **Oconee Cnty. Ad. Ed.** **803/656-5119** $241,187 J. P. Stevens Co. **Greenville Tech. College** **803/250-8220** $177,724 Homelite, Div. of Textron Inc. JPS Converter & Industrial Corp.
TENNESSEE		
Maury County Schools **Columbia 615/388-8403** $47,079 Horace Small Apparel Co. Menasha Corp. Mt. Pleasant Mfg. Co. Shippers Paper Products Stauffer Chemical Co.	**Crossville State Area Vo-Tech School** **Tenn. Dept. of Education** $83,741 Cumberland Hardwoods Sparta 615/738-5624	

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
TEXAS		
Houston Comm. Coll. **Houston 713/630-7279** $296,721 *Local 1550,* *Am. Fed. of State, County, & Munic. Emp./AFL-CIO*	**El Paso Community College** **El Paso 915/542-2721** $390,921 Levi Strauss & Co. **North Harris County College District** **Houston 713/359-1660** $176,915 Houston Lighting & Power	**El Paso Community Coll.** **El Paso 915/542-2721** $383,787 Action West Border Apparel El Paso Apparel Group Levi Strauss & Co. **Lubbock Area Ed. Coop.** **Goodwill Ind. of Lubbock (grantee)** **Lubbock 741-0169** $205,289 University Medical Center **North Lake College** **Irving 214/659-5108** $312,046 Abbott Laboratories **Southwest TX State Univ.** **San Marcos 512/245-8142** $376,467 San Marcos Cham. of Comm. San Marcos Hispanic Chamber of Commerce **Texas State Tech. Institute** **Waco 817/867-4830** $279,089 ServiceMaster, Inc. **The Houston READ Comm.** **Houston 713/462-7708** $253,785 Maxwell House Coffee *United Food & Commercial Workers Local 408* **The University of Texas** **Austin 512/471-7716** $342,072 Austin/Travis County Private Industry Council

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
UTAH		
	San Juan School District **College of Eastern Utah-San Juan Campus** **Blanding 801/678-2281** $294,050 Southeastern Utah Private Industry Council Utah Navajo Industries **Salt Lake Community Coll.** **Salt Lake City 801/461-3220** $392,733 Natter Mfg., Inc. National Semiconductor	
VERMONT		
	Vermont Institute for Self-Rel. **Rutland 802/775-0617** General Elec. Aircraft Engines	
VIRGINIA		
Arlington Cnty. Public Sch. **Arlington 703/358-4200** $258,369 Arlington Chamber of Commerce Days Inn Embassy Suites Hotel Executive Inn Hyatt Arlington Hyatt Regency, Crystal City Quality Hotel Stouffer Concourse Hotel **Massanutten Vo-Tech Ctr.** **James Madison University (grantee)** **Harrisonburg 703/568-6284** $312,785 Rocco, Inc. Virginia Poultry Fed. Wampler-Longacre-Rockingham, Inc.	**Arlington Cnty. Public Sch.** **Alexandria City Pub. Schools** **703/358-4200** **Arlington 703/358-4200** $358,120 Best Western Executive Inn Chambers of Commerce of Arlington and Alexandria Days Hotel, Crystal City Days Inn, Arlington Blvd. Embassy Suites Hotel Guest Quarters Suite Hotel Holiday Inn, Ballston Holiday Inn Crowne Plaza Hyatt Arlington Hyatt Regency, Crystal City Old Colony Inn Quality Hotel Ramada Hotel, Old Towne Sheraton National Stouffer Concourse Hotel	**Arlington Cnty. Public Sch.** **Alexandria City Pub. Sch.** **703/358-4200** **Arlington 703/358-4200** $412,052 Apt. & Office Bldg. Assoc. Arlington and Alexandria Chambers of Commerce Northern Virginia Hotel and Motel Association Southland Corporation Virginia Health Care Assoc. Voluntary Hospital Assoc.-Mid-Atl. States, Inc. **Fairfax County Public Sch.** **Falls Church 703/893-1093** $174,881 First American Metro Corp. First Virginia Banks, Inc. **Massanutten Vo-Tech. Ctr.** **James Madison University (grantee)** **Harrisonburg 703/568-6284** $365,221 Harrisonburg-Rockingham

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
		Chamber of Commerce Merck & Co. Inc. Perdue Farms Inc. Rocco Enterprises, Inc. Valley Blox, Inc. WLR Foods, Inc. **PRIDE:The Employment Co.** **The Center for Bus., Ind. & Government** **Mountain Empire Comm. College (grantee)** **Big Stone Gap** **703/523-2400** $260,102 Buster Brown Apparel, Inc. Joy Technologies Inc. Norris Trim, Inc. Penn Virginia Resources Corp. Ramada Inn, Duffield *UAW Local 2013* **No. Virginia Comm. Coll.** **Alexandria 703/845-6348** $101,330 Boat America Corp.
WASHINGTON		
Employment Opp. Cntr. & Refugees Federation Service Center **Seattle 206/684-7390** $171,289 Seattle/King County Private Industry Council		**Employment Opp. Center** **Southeast Asian Refugee Federation Serv. Cntr.** **Seattle 206/684-7390** $182,953 Seattle-King County PIC **Everett Comm. College** **Washington State Board for Community and Technical Colleges** **Yakima Valley Comm. Col.** **Olympia 206/587-3880** $402,372 Kenworth Truck, Inc. Marriott Hotels Renton Voc-Tech Institute Scott Paper Co. Tacoma Community House Tree Top, Inc. *Western Council of Industrial Workers Local 279*

FIRST CYCLE	SECOND CYCLE	THIRD CYCLE
WEST VIRGINIA		
West Virginia Northern Community College **Wheeling 304/233-5900** $272,795 Union Carbide Weirton Steel	**West Virginia Northern Community College** **Wheeling 304/233-5900** Weirton Steel $440,976	
WISCONSIN		
Wisconsin Board of Voc/ Tech. & Adult Education **Madison 608/266-7830** $390,569 Wisconsin Manufacturers and Commerce *Wisconsin State AFL-CIO*	**Wisconsin Board of Voc/Tech. Adult Education** **Madison 608/266-7830** $494,034 Wisconsin Manufacturers and Commerce *Wisconsin State AFL-CIO*	**Wisconsin Board of Voc/ Tech. & Adult Education** **Madison 608/266-7830** $981,256 Wisconsin Manufacturers and Commerce *Wisconsin State AFL-CIO*
PUERTO RICO		
		Inter American University/ Puerto Rico, **San Juan 809/758-0899** $208,725 GE Aratex Uniform Mfg. Co. H. Bravo & Co., Inc. Spec. Supermarkets, Inc. Wallace International
GUAM		
		Guam Community College **GMF 671/734-4311** $203,921 Pacific Star Hotel

NOTE: Some businesses have participated in the National Workplace Literacy Program as sites receiving educational services, but not as partners in the projects. These businesses are not included in this listing.

LIST OF STATES BY REGION

SOUTH

Alabama
Arkansas
Florida
Georgia
Kentucky
Louisiana
Mississippi
North Carolina
Oklahoma
South Carolina
Tennessee
Texas
Virginia
West Virginia

MIDWEST

Iowa
Illinois
Indiana
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

NORTHEAST

Connecticut
Delaware
District of Columbia
Maine
Maryland
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Puerto Rico
Rhode Island
Vermont
Virgin Islands

WEST

Alaska
Arizona
California
Colorado
Hawaii
Idaho
Montana
New Mexico
Nevada
Oregon
Utah
Washington
Wyoming
American Samoa Trust Territory
Guam
Federated States of Micronesia
Northern Mariana Islands
Palau
Republic of the Marshall Islands

EXCERPT FROM THE AUGUSTUS F. HAWKINS - ROBERT T. STAFFORD ELEMENTARY AND SECONDARY SCHOOL IMPROVEMENT AMENDMENTS OF 1988 (P.L. 100-297, APRIL 28, 1988)

"PART C—WORKPLACE LITERACY AND ENGLISH LITERACY GRANTS

20 USC 1211.

"SEC. 371. BUSINESS, INDUSTRY, LABOR, AND EDUCATION PARTNERSHIPS FOR WORKPLACE LITERACY.

"(a) GRANTS FOR EXEMPLARY DEMONSTRATION PARTNERSHIPS FOR WORKPLACE LITERACY.—(1) Subject to subsection (b), the Secretary shall make demonstration grants to exemplary education partnerships for workplace literacy to pay the Federal share of the cost of adult education programs which teach literacy skills needed in the workplace through partnerships between—

"(A) business, industry, labor organizations, or private industry councils; and

"(B) State educational agencies, local educational agencies, institutions of higher education, or schools (including employment and training agencies or community-based organizations).

"(2) Grants under paragraph (1) may be used—

"(A) to fund 70 percent of the cost of programs which meet the requirements of paragraph (3); and

"(B) for administrative costs incurred by State educational agencies and local educational agencies in establishing programs funded under subparagraph (A).

"(3) Programs funded under paragraph (2)(A) shall be designed to improve the productivity of the workforce through improvement of literacy skills needed in the workplace by—

"(A) providing adult literacy and other basic skills services and activities;

"(B) providing adult secondary education services and activities which may lead to the completion of a high school diploma or its equivalent;

"(C) meeting the literacy needs of adults with limited English proficiency;

"(D) upgrading or updating basic skills of adult workers in accordance with changes in workplace requirements, technology, products, or processes;

"(E) improving the competency of adult workers in speaking, listening, reasoning, and problem solving; or

"(F) providing education counseling, transportation, and nonworking hours child care services to adult workers while they participate in a program funded under paragraph (2)(A).

"(4) An application to receive funding for a program out of a grant made to a partnership under this subsection shall—

"(A) be submitted jointly by—

"(i) a business, industry, or labor organization, or private industry council; and

"(ii) a State educational agency, local educational agency, institution of higher education, or school (including an area vocational school, an employment and training agency, or community-based organization);

"(B) set forth the respective roles of each member of the partnership;

"(C) contain such additional information as the Secretary may require, including evidence of the applicant's experience in providing literacy services to working adults;

"(D) describe the plan for carrying out the requirements of paragraph (3); and

"(I) the number of adults in the State who do not have a certificate of graduation from a school providing secondary education (or its equivalent) and who are not currently required to be enrolled in schools in the State, bears to

"(II) the number of such adults in all States;

except that no State shall receive less than $125,000 in any fiscal year.

"(C) At the end of each fiscal year, the portion of any State's allotment for that fiscal year which—

"(i) exceeds 10 percent of the total allotment for the State under paragraph (2) for the fiscal year; and

"(ii) remains unobligated;

shall be reallocated among the other States in the same proportion as each State's allocation for such fiscal year under paragraph (2).

"(c) AUTHORIZATION OF APPROPRIATIONS.—(1) There are authorized to be appropriated $30,000,000 for the fiscal year 1988, $31,500,000 for the fiscal year 1989, and such sums as may be necessary for the fiscal year 1990 and each succeeding fiscal year ending prior to October 1, 1993, to carry out the provisions of this section.

"(2) No funds may be appropriated under paragraph (1) of this subsection for any fiscal year unless the appropriation for this Act (other than this part) for that year is equal to or greater than $110,000,000.

"(3) Amounts appropriated under this subsection shall remain available until expended.

EXCERPT FROM THE NATIONAL LITERACY ACT OF 1991 (P.L. 102-73, JULY 25, 1991)

Business and industry

TITLE II—WORKFORCE LITERACY

20 USC 1211-1

SEC. 201. NATIONAL WORKFORCE LITERACY ASSISTANCE COLLABORATIVE.

(a) ESTABLISHMENT.—There is established in the Department of Labor a National Workforce Literacy Assistance Collaborative (in this subsection referred to as the "Collaborative") to improve the basic skills of individuals, especially those individuals who are marginally employed or unemployed with low basic skills and limited opportunity for long-term employment and advancement, by assisting small- and medium-sized businesses, business associations that represent small- and medium-sized businesses, and labor organizations to develop and implement literacy programs tailored to the needs of the workforce.

(b) FUNCTIONS.—The Collaborative shall—

(1) develop and implement a plan for providing small- and medium-sized businesses with the technical assistance required to address the literacy needs of their workforce;

(2) monitor the development of workforce literacy training programs and identify best practices and successful small- and medium-sized business program models;

(3) inform businesses and unions of research findings and best practices regarding exemplary curricula, instructional techniques, training models, and the use of technology as a training tool in the workplace;

(4) provide technical assistance to help businesses assess individual worker literacy skill needs, implement workforce literacy training programs, and evaluate training program effectiveness;

(5) promote cooperation and coordination among State and local agencies and the private sector to obtain maximum uses of existing literacy and basic skills training resources;

(6) conduct regional and State small business workforce literacy meetings to increase program effectiveness and accountability;

(7) establish cooperative arrangements with the National Institute for Literacy and other centers involved in literacy and basic skills research and development activities; and

(8) prepare and produce written and video materials necessary to support technical assistance and information dissemination efforts.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated for purposes of carrying out this section $5,000,000 for each of the fiscal years 1992, 1993, 1994, and 1995.

SEC. 202. GRANTS FOR NATIONAL WORKFORCE LITERACY STRATEGIES.

Section 371 of the Adult Education Act (20 U.S.C. 1211) is amended—

(1) in subsection (a)—

(A) in paragraph (1), by inserting after "Secretary" the following: ", in consultation with the Secretary of Labor and the Administrator of the Small Business Administration,";

(B) in subparagraph (B) of paragraph (2)—

(i) by striking "and" and inserting a comma; and

(ii) by inserting after "local educational agencies" the following: ", and other entities described in paragraph (1) that receive grants under this subsection"; and

(C) by adding at the end the following:

"(5) In awarding grants under this section, the Secretary shall give priority to applications from partnerships that include small businesses.

Small business.

"(6) The Secretary is authorized to award grants under this section for a period not to exceed 3 years.";

(2) in subsection (b)—

(A) in paragraph (1), by striking "subsection (c)" and inserting "subsection (e)";

(B) in subparagraph (B) of paragraph (2)—

(i) by striking "and" the first place it appears and inserting a comma; and

(ii) by inserting after "local educational agencies" the following: ", and other entities described in paragraph (1) that receive grants under this subsection"; and

(C) in paragraph (7), by amending subparagraph (B) to read as follows:

"(B) From the sum appropriated for each fiscal year under subsection (c) for any fiscal year in which appropriations equal or exceed $50,000,000, the Secretary shall allot to each State (as defined in section 312(7)) an amount proportionate to the amount such State receives under section 313.".

COMMON QUESTIONS AND ANSWERS ON THE NATIONAL WORKPLACE LITERACY PROGRAM

(EXCERPTED FROM THE FEDERAL REGISTER, JUNE 4, 1991)

Appendix B

Potential applicants frequently direct questions to officials of the Department regarding application notices and programmatic and administrative regulations governing various direct grant programs. To assist potential applicants the Department has assembled the following most commonly asked questions.

Q. Can we get an extension of the deadline?

A. No. A closing date may be changed only under extraordinary circumstances. Any change must be announced in the **Federal Register** and apply to all applications. Waivers for individual applications *cannot* be granted, regardless of the circumstances.

Q. We just missed the deadline for a previous Department of Education competition. May we submit the application we prepared for it under this competition?

A. Yes. However the likelihood of success is not good. A properly prepared application must meet the specifications of the competition to which it is submitted.

Q. I'm not sure which competition is most appropriate for my project. What should I do?

A. We are happy to discuss any questions with you and provide clarification on the unique elements of the various competitions.

Q. How can I best ensure that my application is received on time and is considered under the correct competition?

A. Applicants should carefully follow the instructions for filing applications that are set forth in this notice. Be sure to clearly indicate in Block 10 of the face page of their application (Standard form 424) the CFDA number—84.198—and the title of the program—National Workplace Literacy Program—representing the competition in which the application should be considered.

Q. Will you help us prepare our application?

A. We are happy to provide general program information. Clearly, it would not be appropriate for staff to participate in the actual writing of an application, but we can respond to specific questions about application requirements, evaluation criteria, and the priority. Applicants should understand that this previous contact is not required, nor will it in any way influence the success of an application.

Q. How long should an application be?

A. The Department of Education is making a concerted effort to reduce the volume of paperwork in discretionary program applications. However, the scope and complexity of projects is too variable to establish firm limits on length. Your application should provide enough information to allow the review panel to evaluate the significance of the project against the criteria of the competition. We recommend that you address all of the selection criteria in an "Application Narrative" of no more than thirty pages in length. Supporting documentation may be included in appendices to the Application Narrative. Some examples:

(1) Staff qualifications. These should be brief. They should include the person's title and role in the proposed project and contain only information about his or her qualifications that are relevant to the proposed project. Qualifications of consultants should be provided and be similarly brief. Resumes may be included in the appendices.

(2) Copies of evaluation instruments proposed to be used in the project in instances where such instruments are not in general use.

Note that a Budget Narrative describing specific uses of funds requested in the budget form also is required. No applications will be funded without this material. The Budget Narrative is not included in the thirty pages recommended. It may consist of two or three additional pages.

Q. How should my application be organized?

A. The Secretary strongly requests that the application be assembled with the SF 424 on top, followed by the abstract, Partners' Agreement Form, table of contents, SF 424A budget forms, application narrative, assurances and certifications, and appendices. Do not substitute your own cover for the SF 424. Please include one extra, loose copy of the SF 424 for use by the Application Control Center. Please number all pages. The application narrative should be organized to follow the exact sequence of the components in the selection criteria in this notice.

Q. Is travel allowable using project funds?

A. Travel associated with carrying out the project is allowed if necessary and reasonable. The Secretary anticipates that the project director may be asked to attend two staff development meetings. Therefore, you may wish to include the costs of two trips to Washington, DC in the travel budget.

Q. How can I ensure that my application is filed on behalf of a validly formed partnership?

A. The requirements for forming a partnership and filing an application on its behalf are explained in Sec. 432.3 of the program regulations. A partnership requires a signed agreement between at least one entity described in Sec. 432.2(a)(1) and at least one entity described in Sec. 432.2(a)(2). Note that State and local governments—like any other entities—may not qualify as partners unless they fall within these descriptions. For example, under the regulations a State or local educational agency or a municipal employment and training agency is an eligible partner, but a State or city as such is not an eligible partner. No agency of the Federal government is an eligible partner. Federal employees including members of the armed services are not eligible for training. If you are not sure whether a particular entity is an eligible partner, please call one of the program officers listed as an information the application notice.

Q. Must the signed partnership agreement be submitted with the application?

A. Yes. The agreement is required both to establish the partnership's legal eligibility and to ensure each partner's continuing commitment during the workplace literacy project. Prior to submitting an application, partners should ensure that each partner clearly understands its role and responsibilities in the project. The Department wishes to underscore that if any of the entities named as partners in the application have not signed the agreement form, the application will be returned to the applicant without further consideration for funding.

Because partnership requirements are established by law, the Department reviews each agreement form to be certain that it meets the terms of the law requiring all entities named as partners to sign the agreement.

Q. Can entities that are not eligible partners be involved in a workplace literacy project?

A. Yes. They could potentially be involved as "contractors," "helping organizations," or "sites," as defined in Sec. 432.5 of the regulations. Note that entities which are "helpers" or "sites" may not receive funds from the grant.

Q. What is meant by a required percent of non-Federal matching funds?

A. In this program, the recipient of Federal funds is required to "match" the Federal grant by paying at least a minimum percentage of total program costs. Total program costs include both the Federal funds received and the non-Federal contribution. For example, a partnership that is required to pay 30 percent of total program costs would have to contribute $30,000 to match a Federal award of $70,000 ($30,000 = 30

percent of $100,000 ($30,000 plus $70,000)). All partnerships must contribute at least 30 percent of total program costs, unless this amount is reduced because an SEA or LEA is the partnership's designated grantee. SEAs and LEAs are eligible to receive full—not merely 70 percent—reimbursement for their necessary and reasonable administrative costs incurred in establishing a project during the project start-up period. That period may not exceed 90 days.

Q. May a project provide vocational or job training activities?

A. No. Projects must provide adult education programs that teach literacy skills needed in the workplace. Workplace literacy activities include only the adult education activities listed in the Description of Program section of the Notice Inviting Applications. This list does not include vocational or job training activities such as auto mechanics, dye casting, tailoring, and statistical process control. Workplace literacy instruction, however, may enable individuals to benefit subsequently or simultaneously from advanced vocational skills training. For example, this program could support classes in math skills necessary for statistical process control but not a program of statistical process control training itself. If you are not sure whether a particular activity is eligible under this program, please call one of the program officers listed as an information contact in the application notice.

Q. May a project provide training in operating a computer?

A. Training to operate a computer that is part of the performance of a job is a form of vocational or job training and is not an eligible activity under this program. However, computers could be used as a means of instruction if this were necessary and reasonable under the circumstances of a particular project. In such a context, it would be permissible to ensure that students possessed those rudimentary skills that are necessary to interact with computer-assisted literacy instruction.

Q. How many copies of the application should I submit and must they be bound?

A. The original application should be bound and clearly marked as the original application bearing the original signatures. Current Government-wide policy is that only an original and two copies need be submitted. However, an original and six bound copies will be greatly appreciated. The binding of applications is optional. If six copies are not submitted, then at least one copy (not the original) should be left unbound to facilitate any necessary reproduction. Please mark each application as original or copy. Applications should not include foldouts, photographs, audio-visuals, or other materials that are hard-to-duplicate.

Q. When will I find out if I'm going to be funded?

A. You can expect to receive notification within 6 to 9 months of the application closing date, depending on the number of applications received and the number of competitions with closing dates at about the same time.

Q. Will my application be returned?

A. We do not return original copies of applications. Thus, applicants should retain at least one copy of the application.

Q. What happens during negotiations?

A. During negotiations technical and budget issues may be raised. These are issues that have been identified during panel and staff reviews that require clarification. Sometimes issues are stated as "conditions." These are issues that have been identified as so critical that the award cannot be made unless those conditions are met. Questions may also be raised about the proposed budget. Generally, these issues are raised because there is inadequate justification or explanation of a particular budget item, or because the budget item seems unimportant to the successful completion of the project. If you are asked to make changes that you feel could seriously affect the project's success, you may provide reasons for not making the changes or provide alternative suggestions. Similarly, if proposed budget reductions will, in your opinion, seriously affect the project activities, you may explain why and provide additional justification for the proposed expenses. An award cannot be made until all negotiation issues have been resolved.

Q. Where can copies of the Federal Register, program regulations, and Federal statutes be obtained?

A. Copies of these materials can usually be found at your local library. If not, they can be obtained from the Government Printing Office by writing to: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Telephone: (202) 783-3238. When requesting copies of regulations or statutes, it is helpful to use the specific name, public law number, or part number. The materials referenced in this notice should be referred to as follows:

(1) Augustus F. Hawkins—Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988, Public Law 100-297, Title III, Sections 301-355.

(2) Education Department General Administrative Regulations, 34 CFR Parts 74, 75, 77, 79, 80, 81, 85, or 86.

(3) 34 CFR Part 432 (National Workplace Literacy Program), as published in the Federal Register (Vol. 54, No. 159, pages 34418-34420).

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